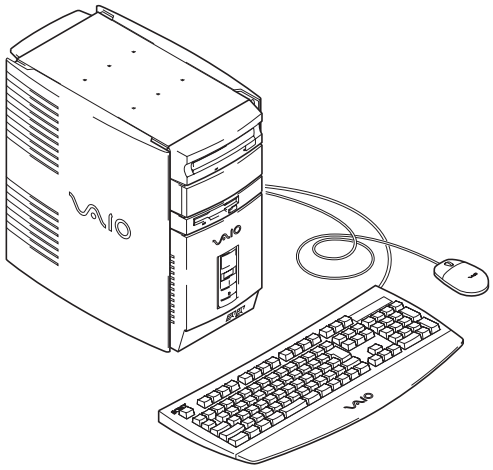
PCV-R522DS/R526DS/R528DS

SERVICE MANUAL

US Model



S400

Specifications

PERSONAL COMPUTER VAIO

SONY

9-928-340-11

Information in this document is subject to change without notice.

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer's instructions.

Service and Inspection Precautions

1. Obey precautionary markings and instructions

Labels and stamps on the cabinet, chassis, and components identify areas requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents.

2. Use designated parts only

The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages. Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the (⚠ mark, which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions; be extra sure to use only the designated components.

3. Always follow the original design when mounting parts and routing wires

The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it away from hot or high-voltage parts. When mounting parts or routing wires. therefore, be sure to duplicate the original layout.

4. Inspect after completing service

After servicing, inspect to make sure that all screws, components, and wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

5. When replacing chip components...

Never reuse components. Also remember that the negative side of tantalum capacitors is easily damaged by heat.

6. When handling flexible print boards...

- The temperature of the soldering-iron tip should be about 270C.
- Do not apply the tip more than three times to the same pattern.
- Handle patterns with care; never apply force.

Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.

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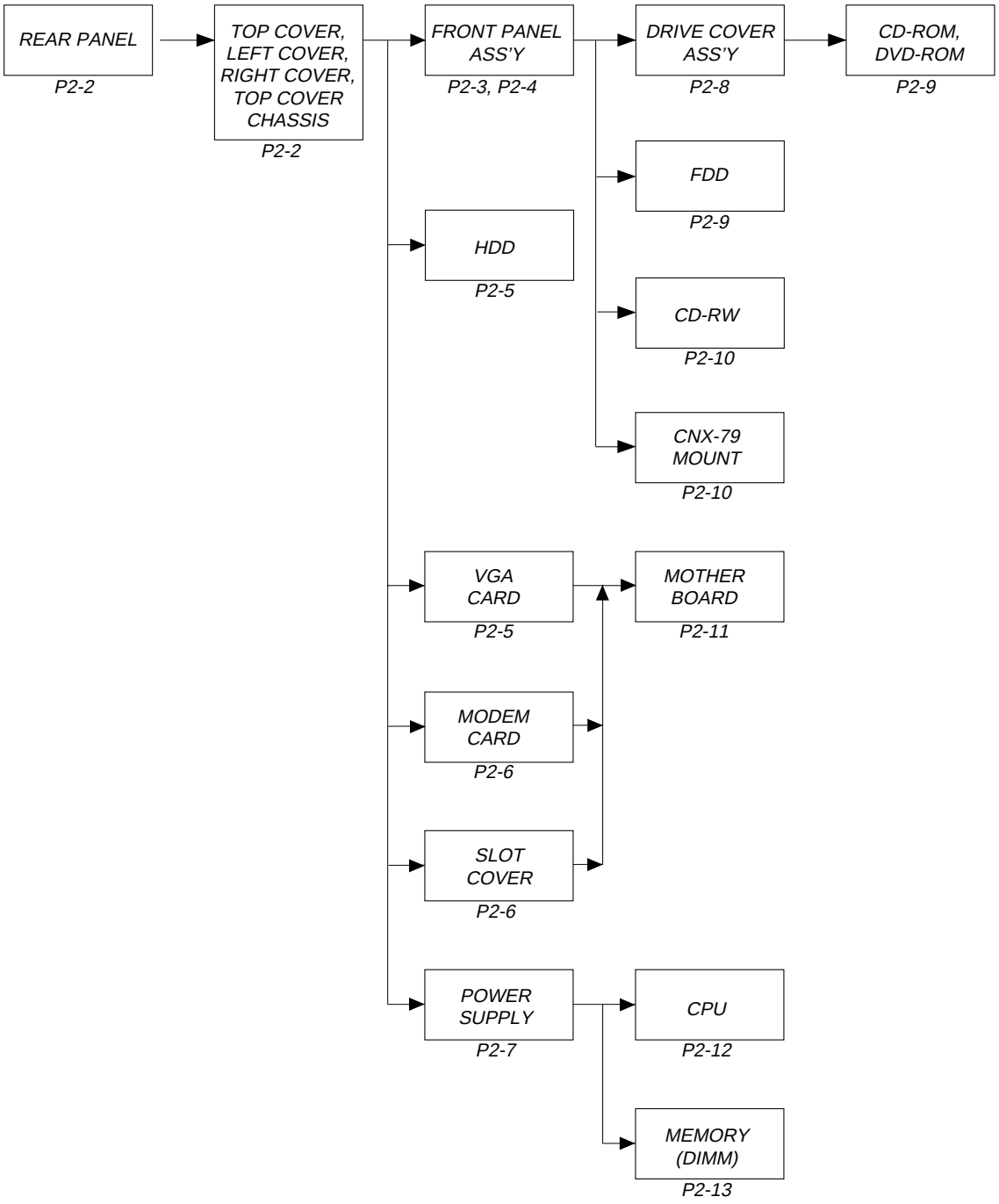
SECTION 1
OPERATION

Reproduced from User Guide [4-643-599-01]

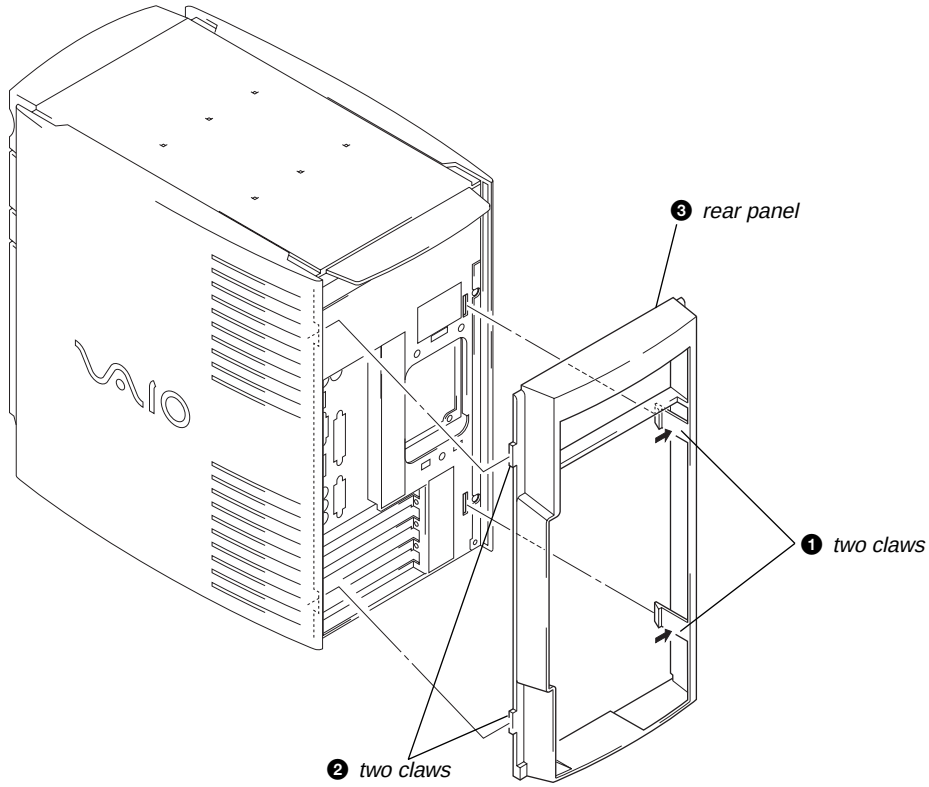
SECTION 2
DISASSEMBLY

2-1. FLOW CHART

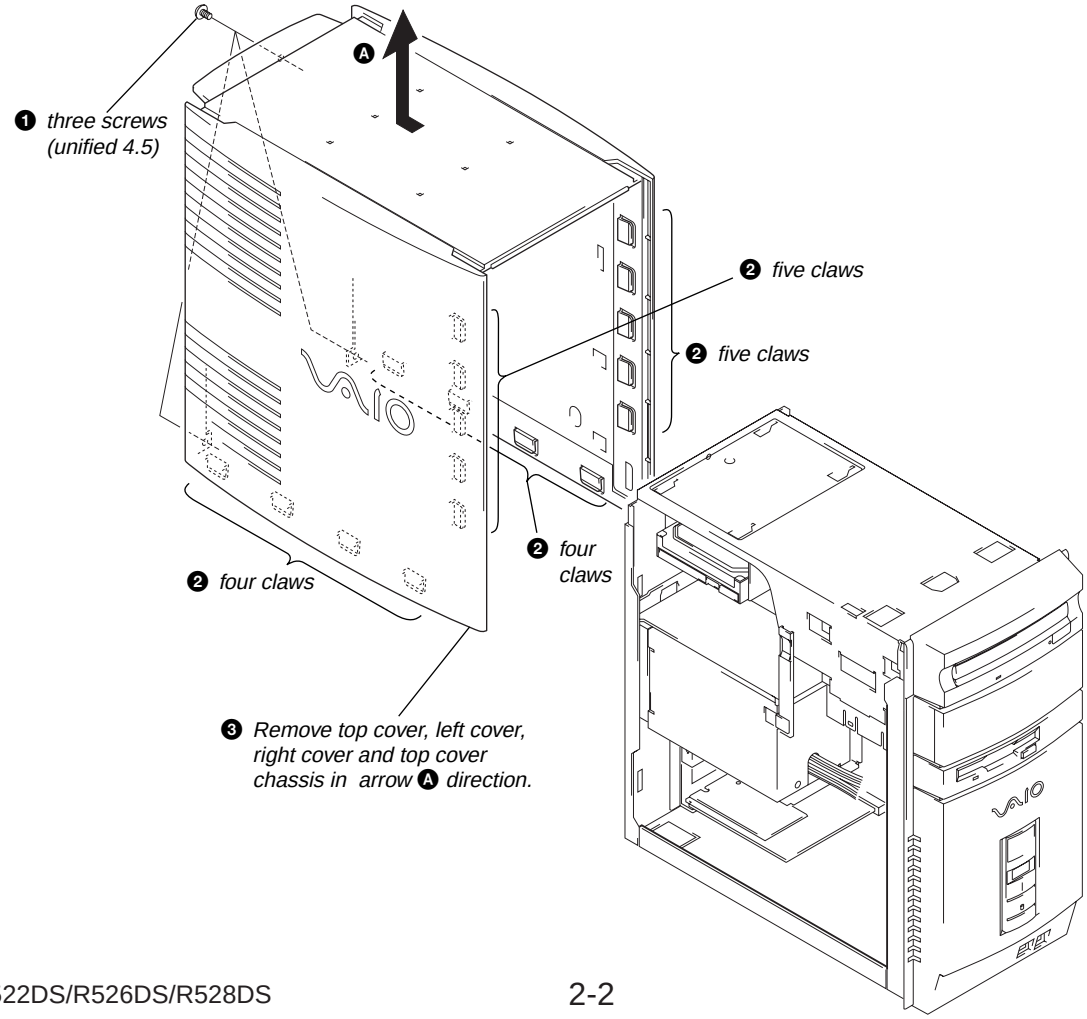


- P☐-☐ denotes the page concerned.
- HDD has a low resistance to vibration, requiring careful handling.

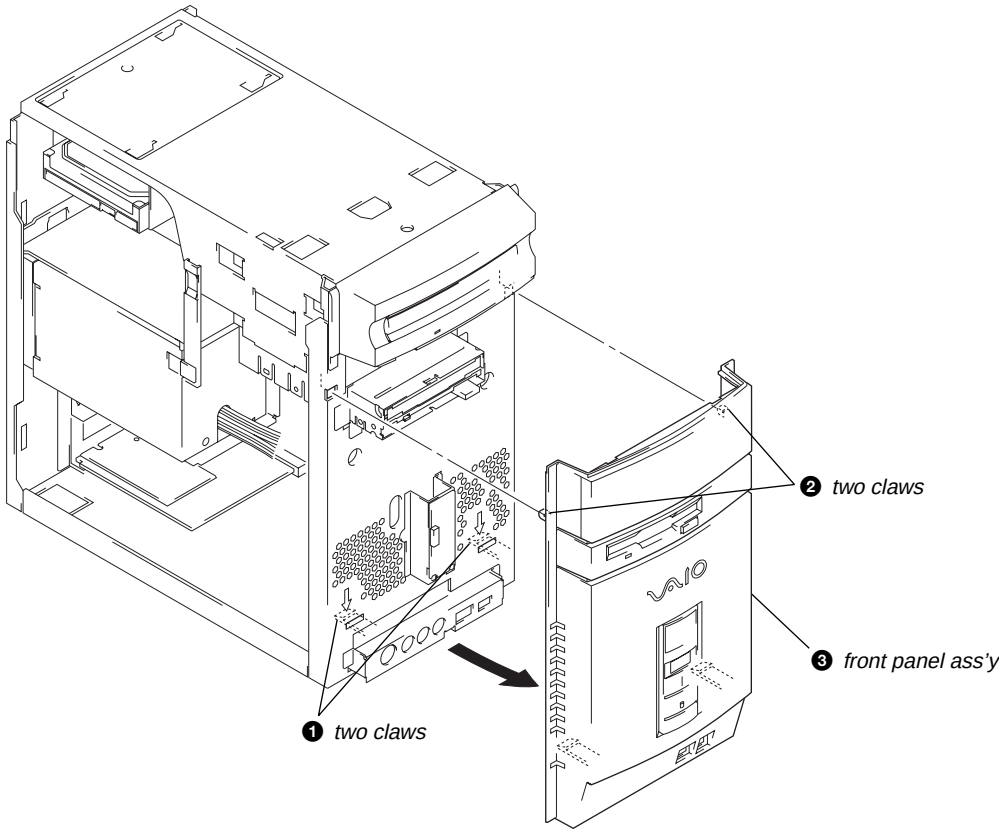
2-2. REAR PANEL



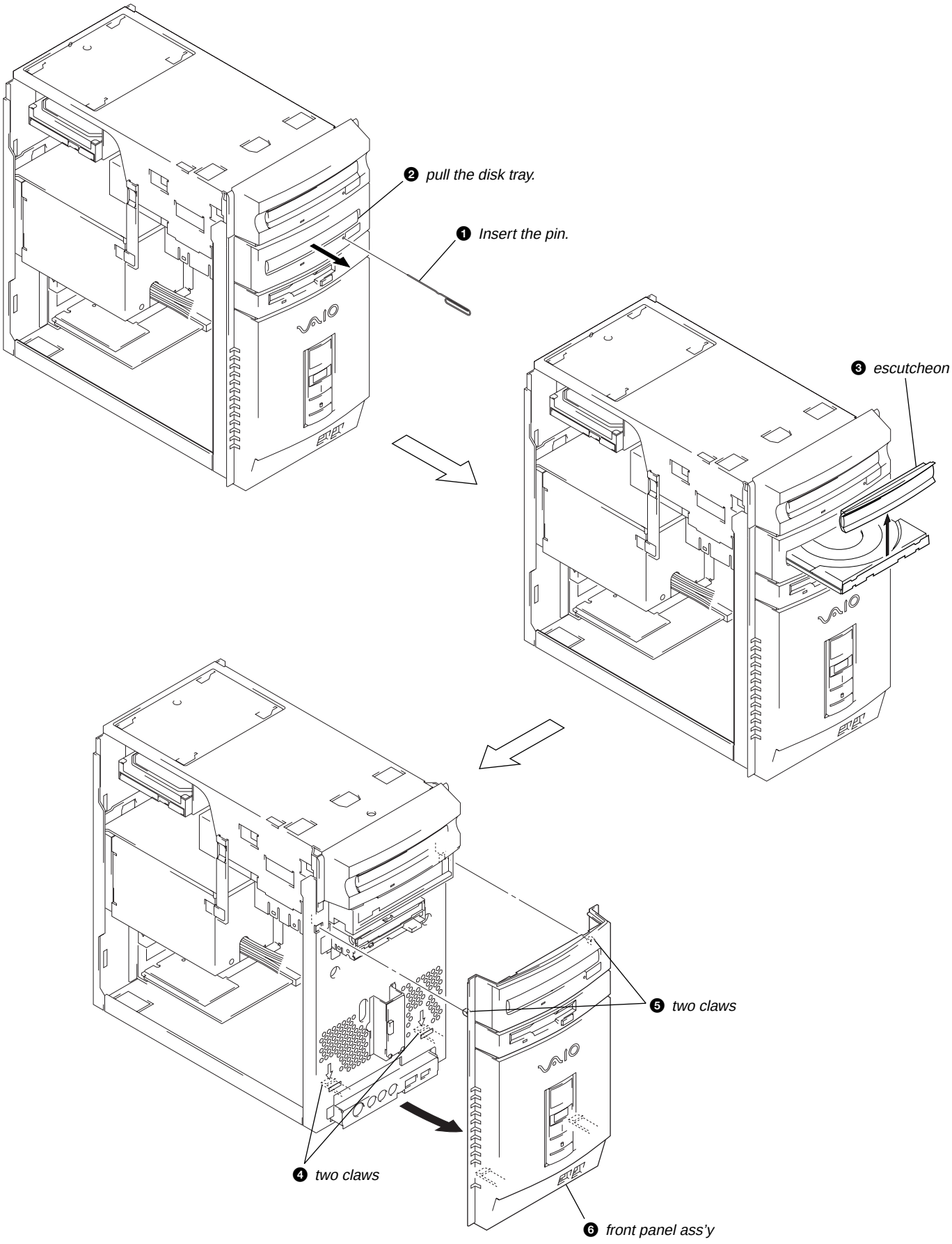
2-3. TOP COVER, LEFT COVER, RIGHT COVER AND TOP COVER CHASSIS



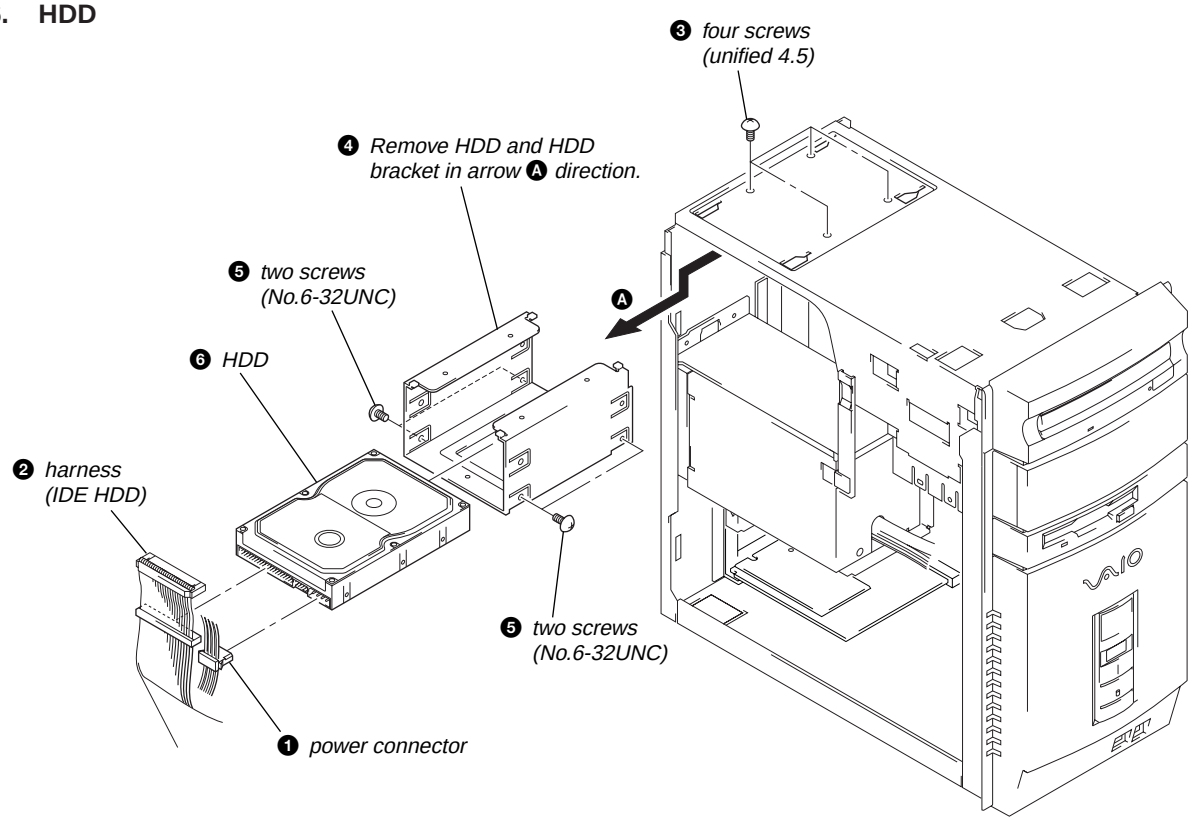
2-4. FRONT PANEL ASS'Y (PCV-R522DS, R526DS)



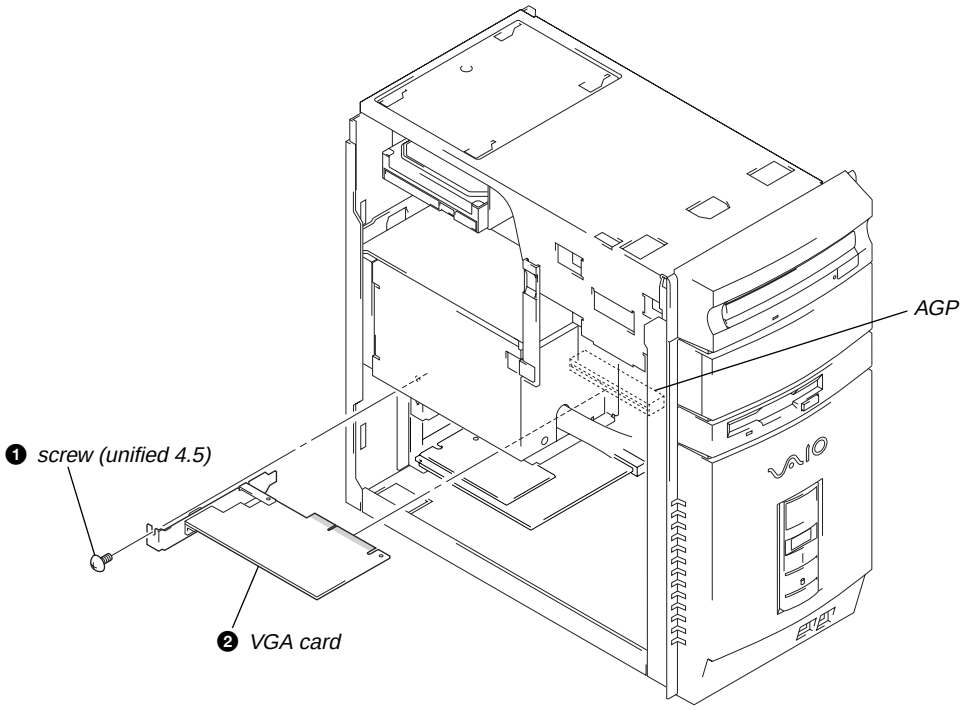
2-5. FRONT PANEL ASS'Y (PCV-R528DS)



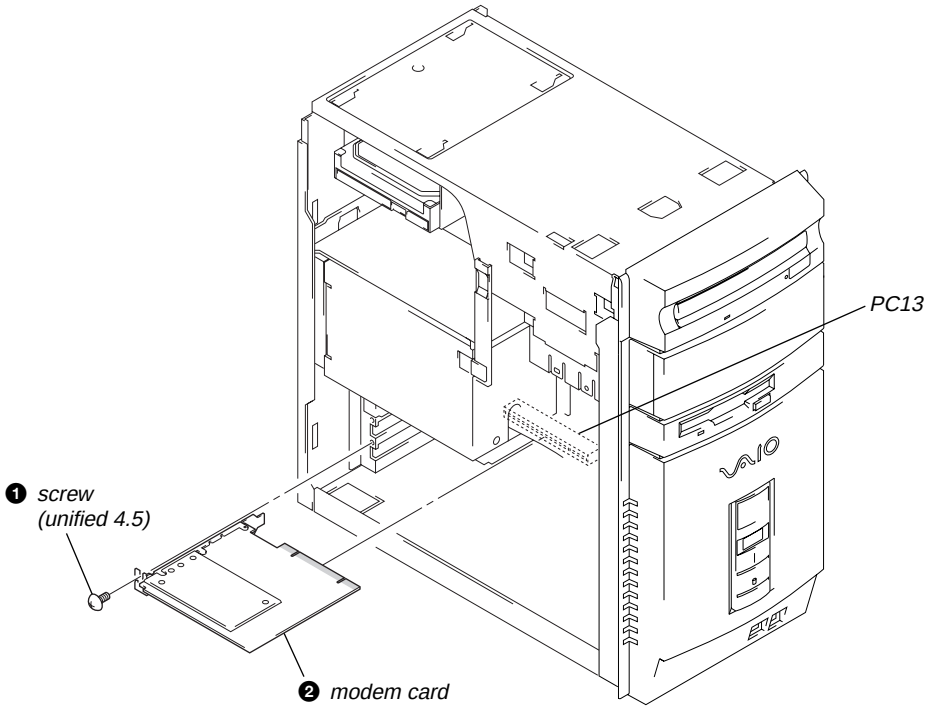
2-6. HDD



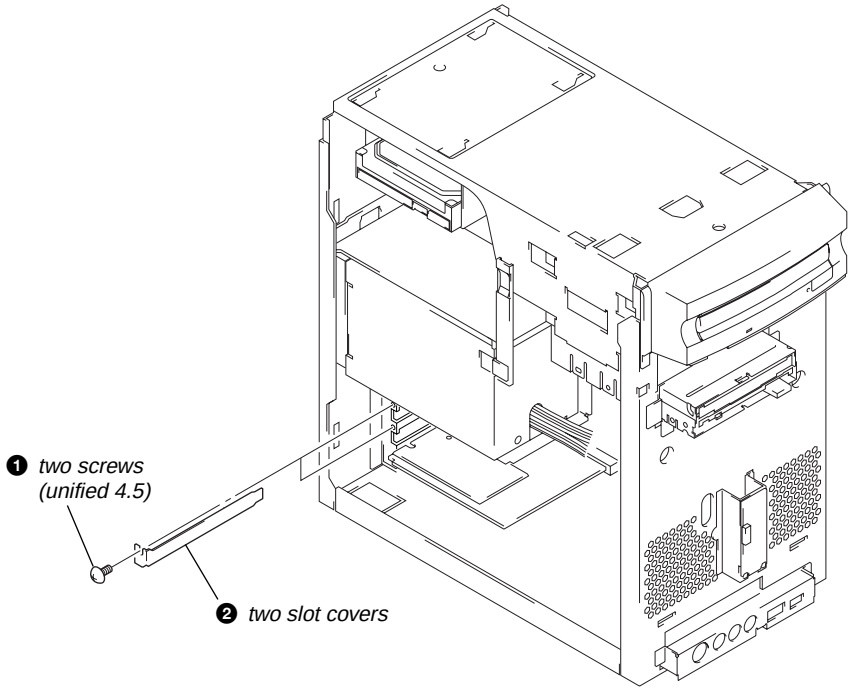
2-7. VGA CARD



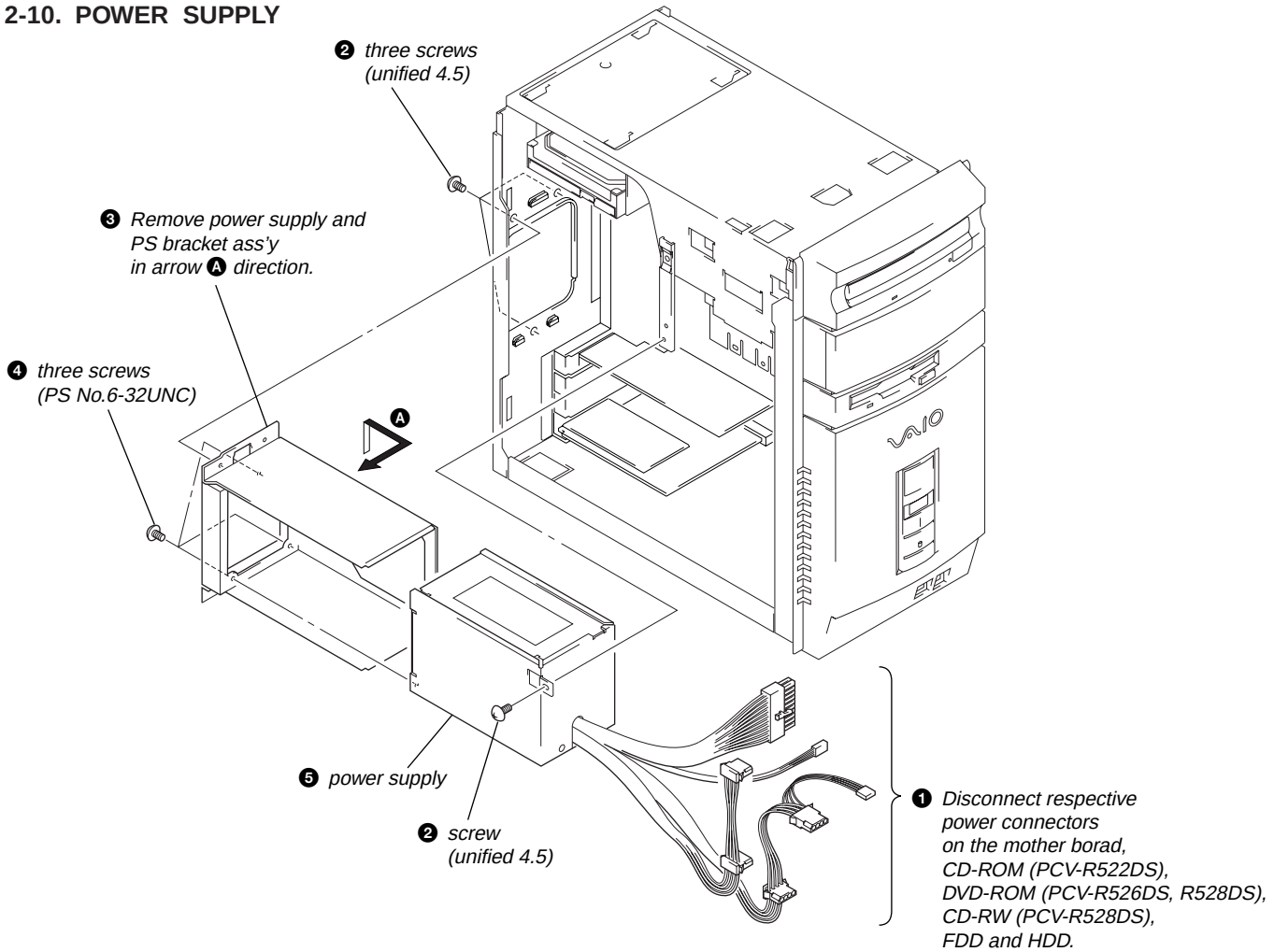
2-8. MODEM CARD



2-9. SLOT COVER

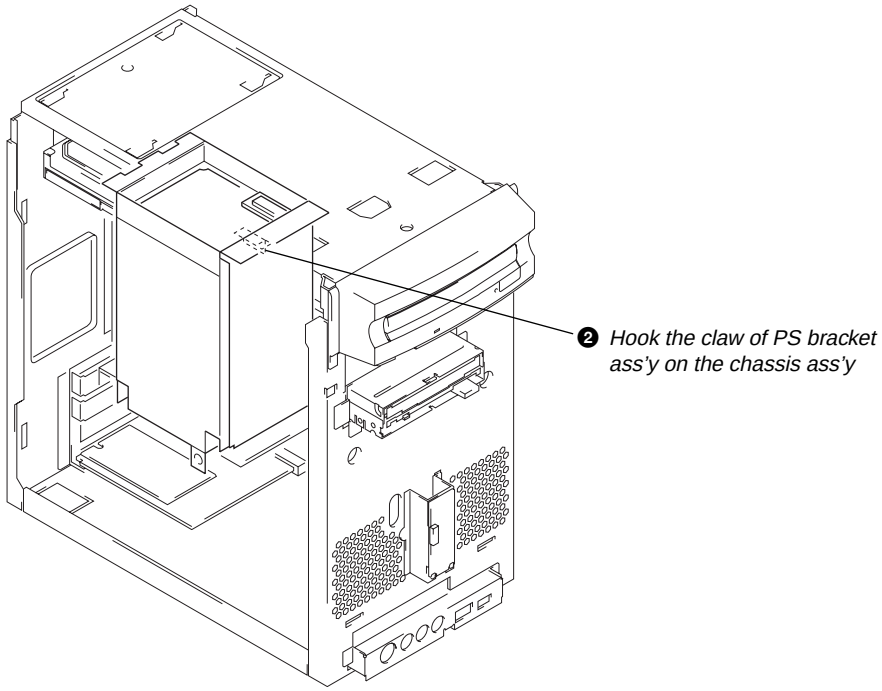


2-10. POWER SUPPLY

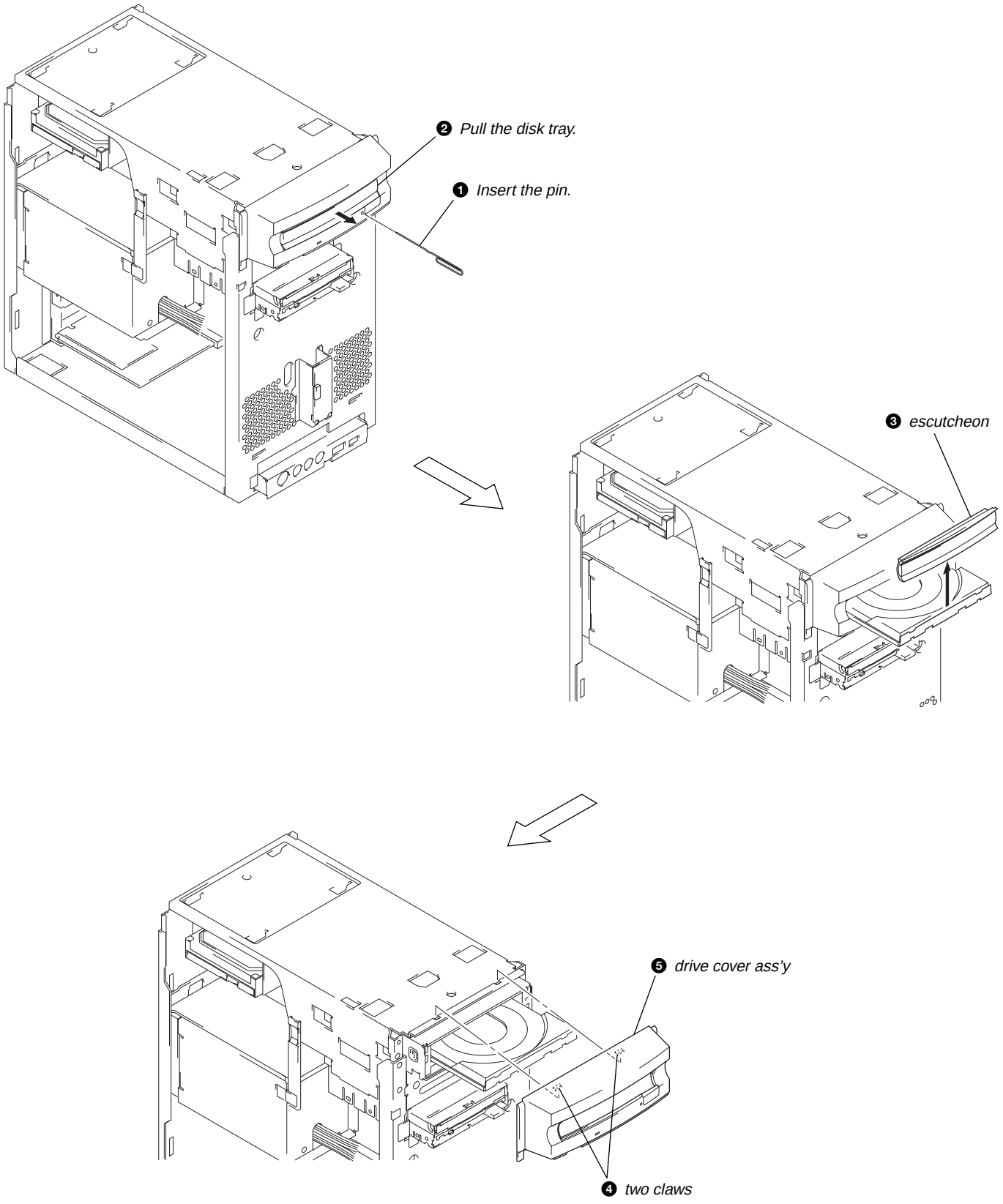


2-11. SERVICE POSITION

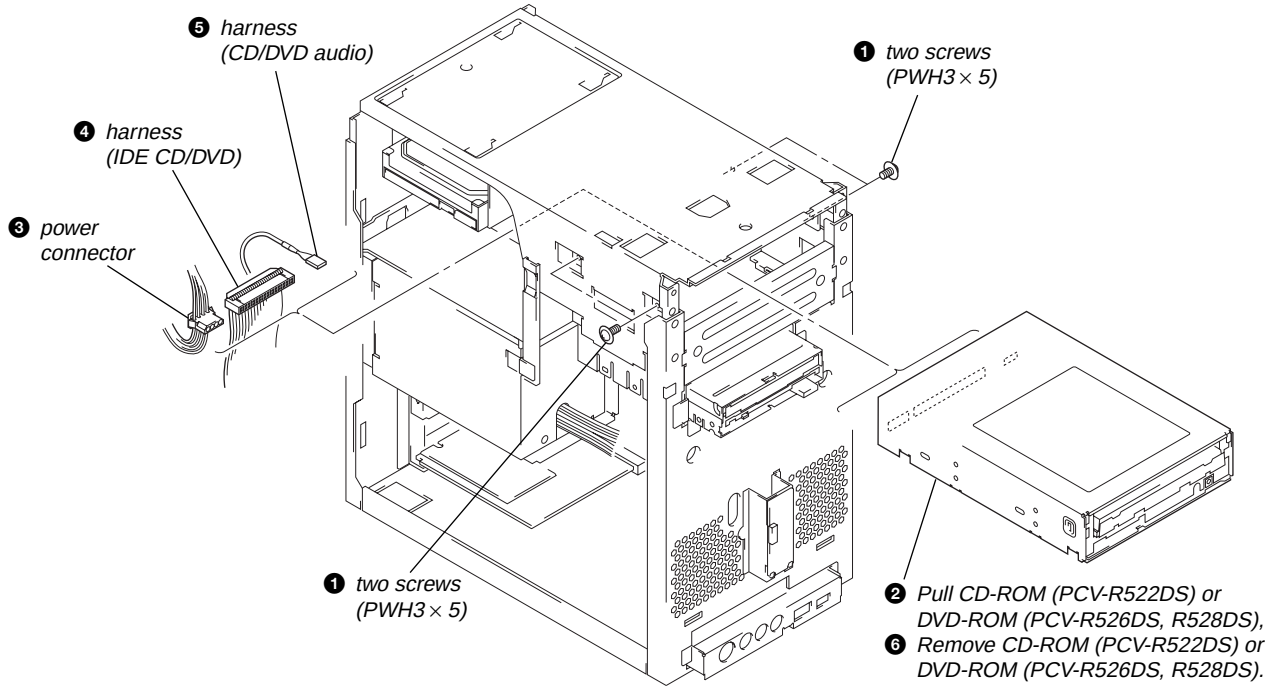
❶ *Remove power supply and PS bracket ass'y.*



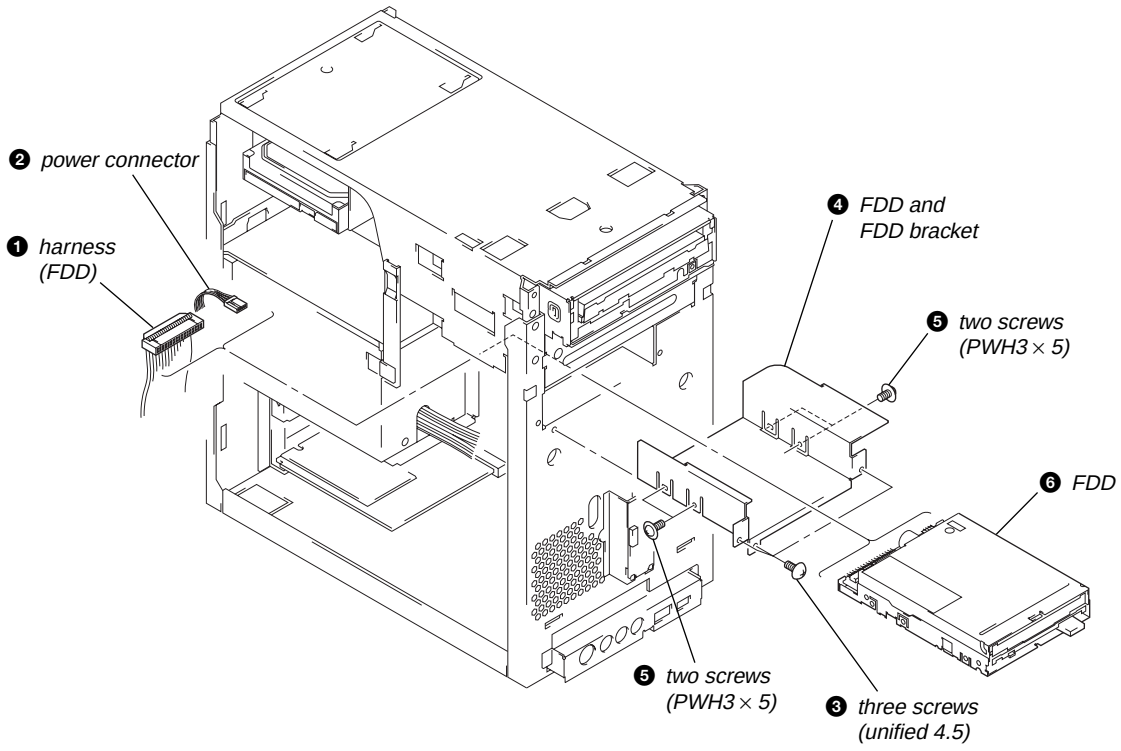
2-12. DRIVE COVER ASS'Y



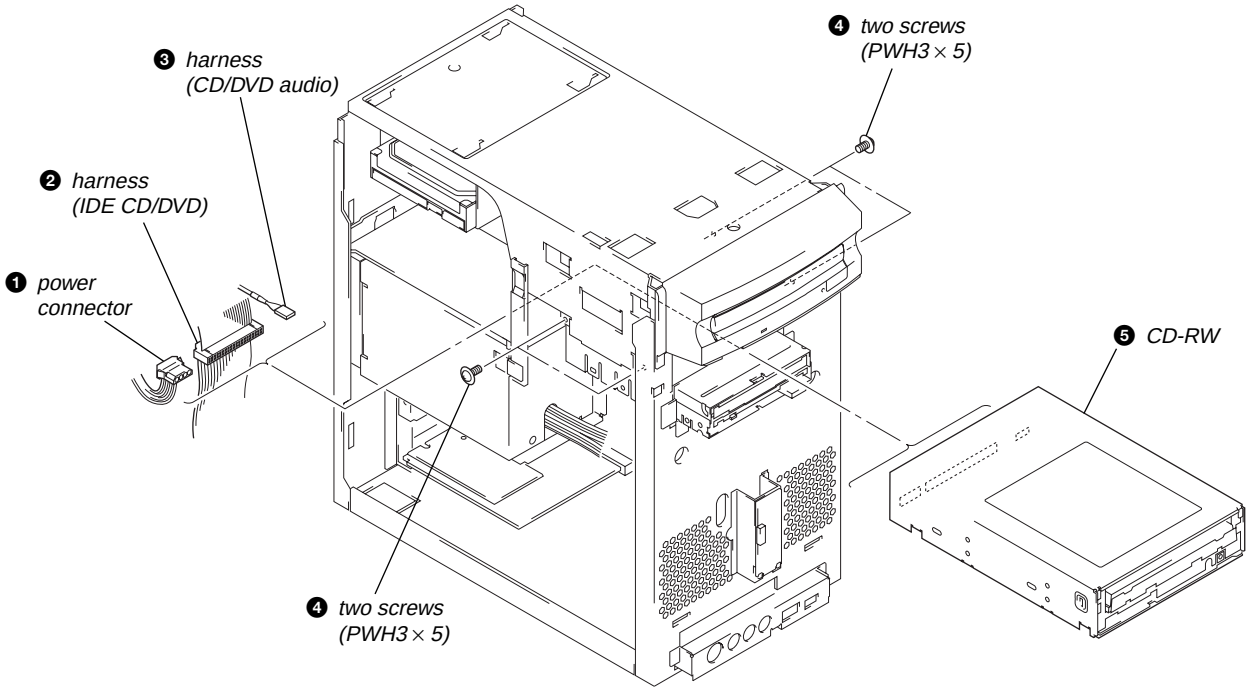
2-13. CD-ROM (PCV-R522DS) , DVD-ROM (PCV-R526DS, R528DS)



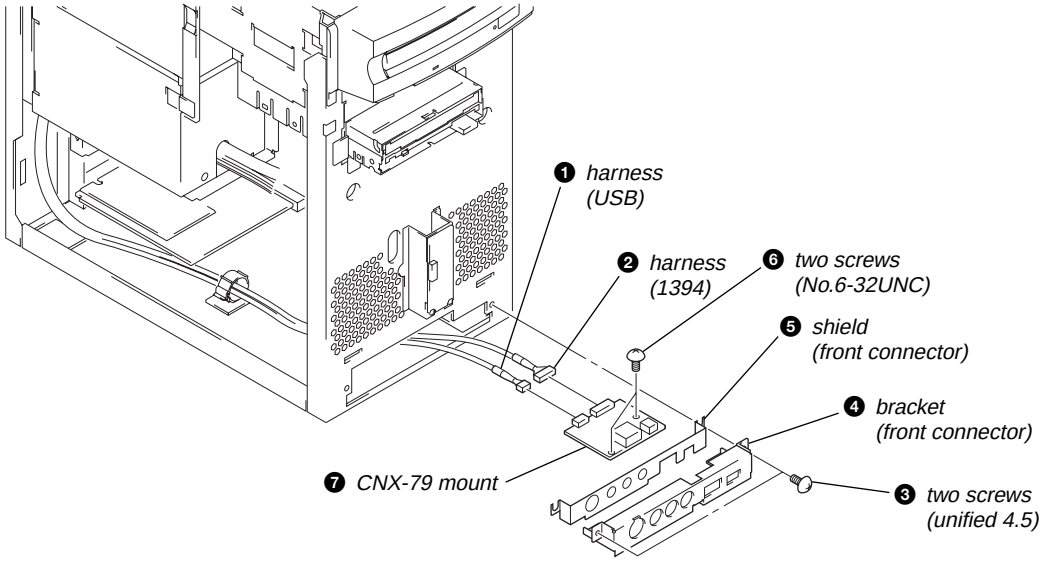
2-14. FDD



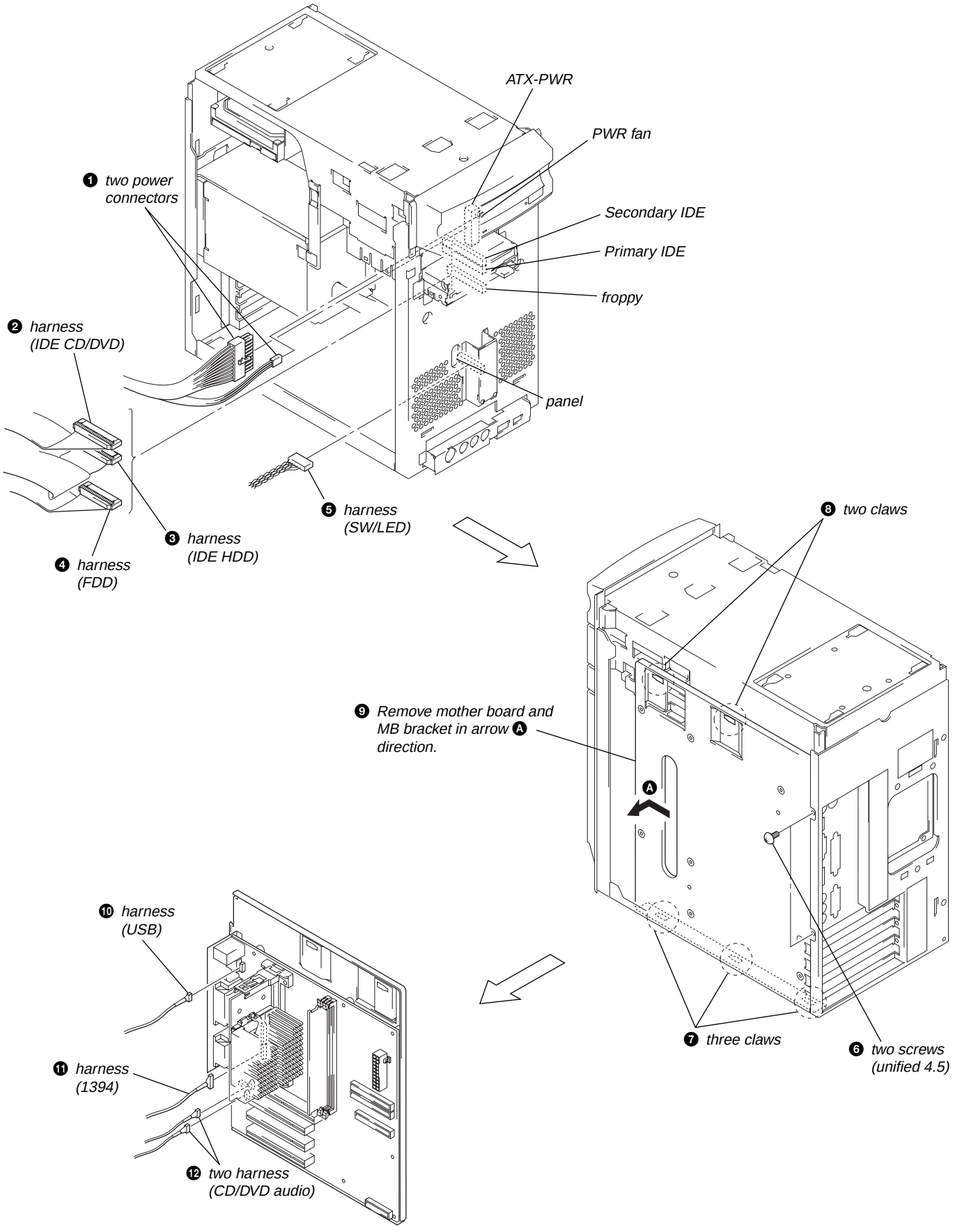
2-15. CD-RW (PCV-R528DS)



2-16. CNX-79 MOUNT

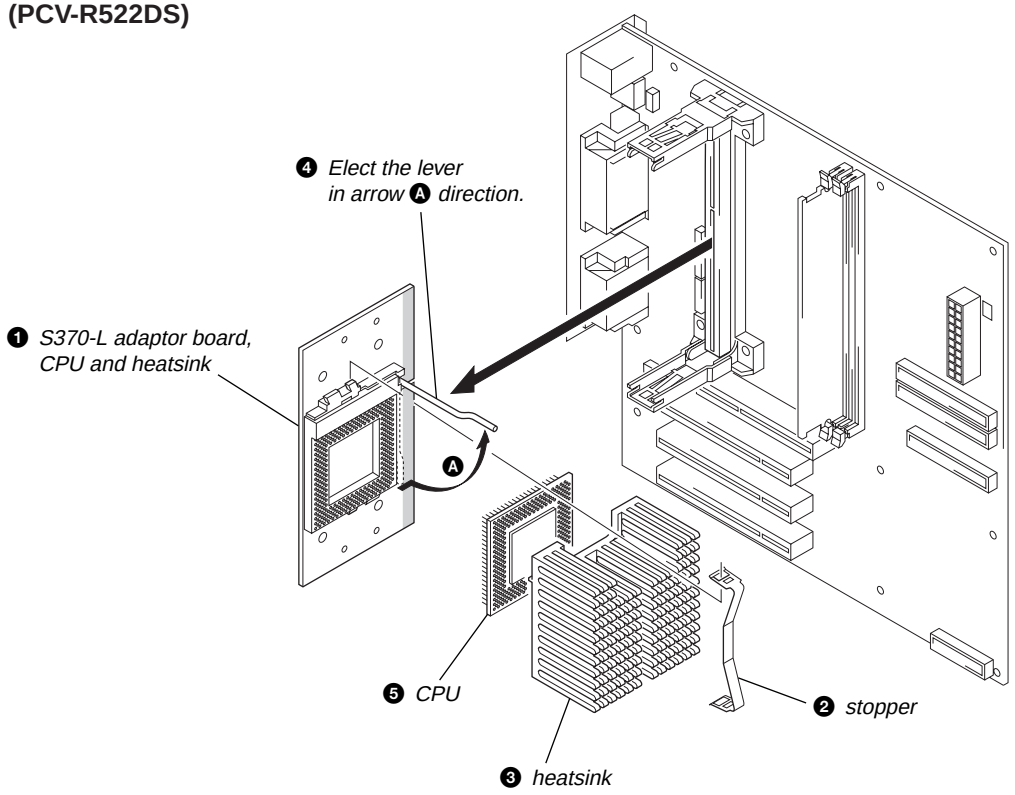


2-17. MOTHER BOARD

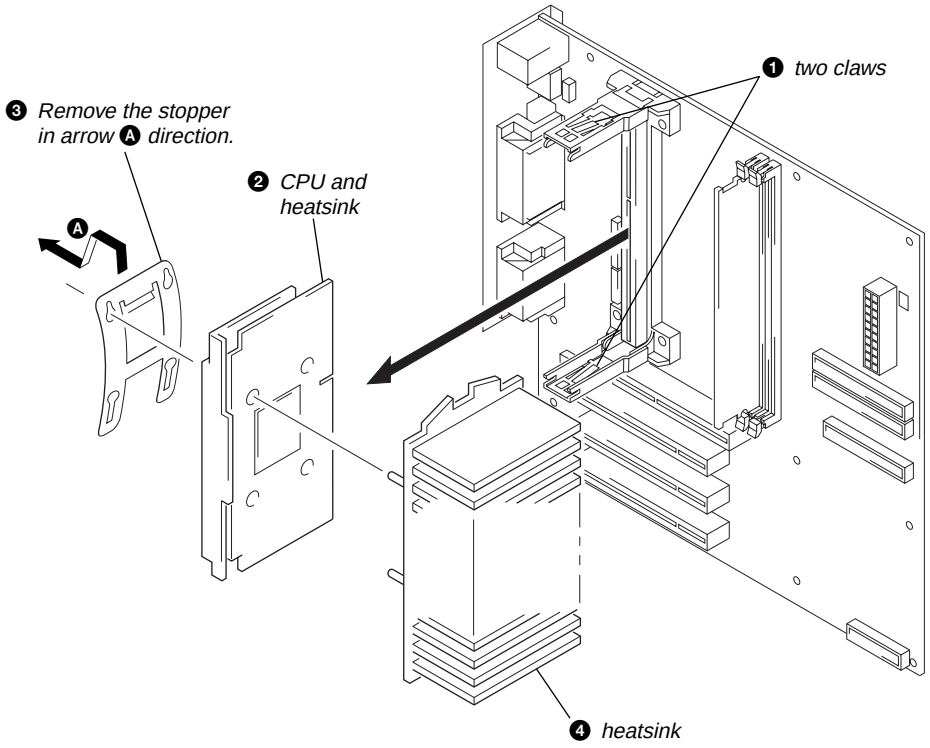


2-18. CPU

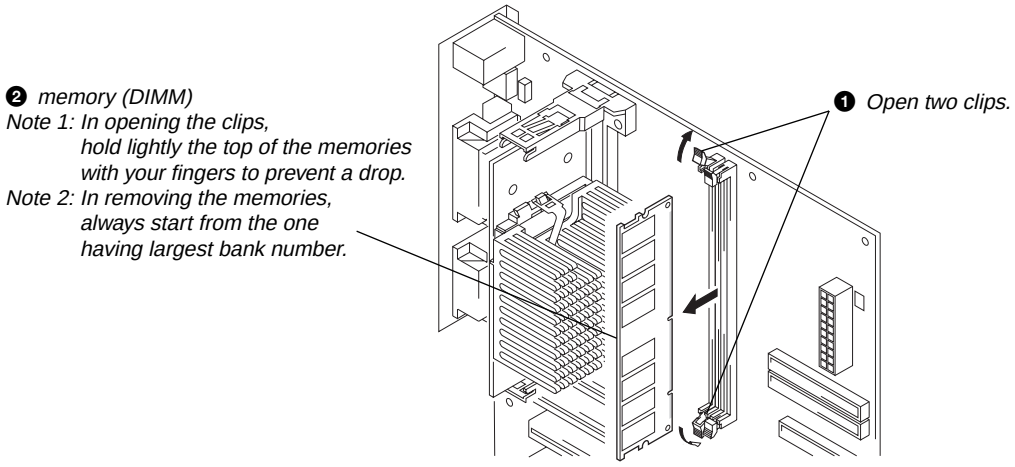
(PCV-R522DS)



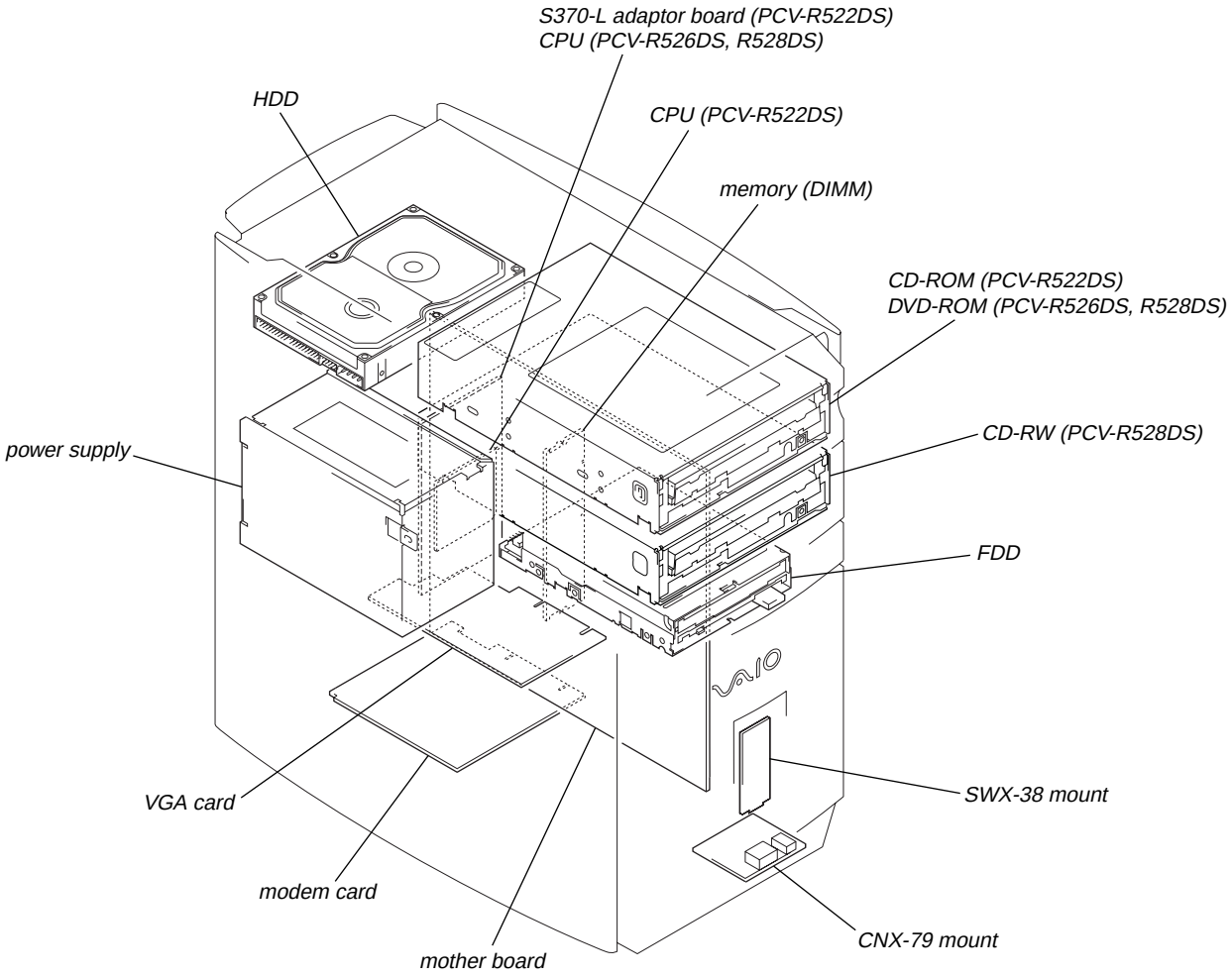
(PCV-R526DS, R528DS)



2-19. MEMORY (DIMM)



2-20. MAIN ELECTRIC RARTS ARRANGEMENT



3.1 Overview

This document describes the specification for the motherboard of PCV-R52X series.

- MicroATX version1.0 compatible
- Slot 1, Single PentiumII/Deschutes, Katmai Coppermine processor, all speeds, voltages, bus frequencies support. Can support both 100MHz/66MHz FSB.
- VRM 8.4 support
- Hardware monitoring CPU Temp/sensor (visibility of this feature is removed from BIOS)
- Two 168-pin DIMM sockets (SDRAM, maximum 512Mbytes NonECC)
- Intel 440BX Chipset
- Winbond W83977EF-AW Super I/O Controller
- One AGP, Three PCI slots and **NO** ISA slot
- Ultra DMA/33 enable
- on board PCI/AC97 Audio (Aureal AU8830, AKM AK4542VQ)
- Socketted Flash BIOS
- On board IEEE1394 OHCI LINK and PHY (TI TSB41LV02/TSB12LV22)
- Header for Front accessible IEEE1394 connector.
- Header for Front-accessible USB connector.
- No Q-salt capacitors
- PC99 Compliant

3.2 Formfactor

Meet Intel MicroATX version 1.0 specification

- maximum 9.6inches x 9.6 inches(244mmx244mm)
- height restrictions of MicroATX version 1.0

3.3 Connectorsand Headers

- Slot 1 connector (.159" (4.04mm) mounting holes)
- Heat Sink Support (HSS) mounting holes.
- 2 168pin DIMM socket (gold plated)
- SFX ATX power supply power connector , Power Supply Fan connector
- 1 FDD / 2 IDE Connectors
- 4-pin CD-ROM audio input (stereo) connector
- 4-pin AUX audio input (stereo) connector
- 4-pin MODEM input/output header (not installed)
- 1 Parallel(25pin) connector
- 1 Game Port (15pin) connector
- 1 Serial (9pin) connector for COM1. One header for COM2 on MB (not installed)
- 2 PS/2 connector (Keyboard, Mouse)
- One IEEE1394(6pin) standard interface connector, Two headers for front connector (only one is used)
- 1 USB port connector on rear I/O, 1 header for front connector
- 1 Optical Digital Audio(SPDIF) output connector (not installed)
- Line In/Mic In/Headphone Out mini-jack
- Power/Sleep/HDD/Reset header (included in the Panel header)
- Wake on LAN header (Including 5VSB) (not installed)
- 1 Cooling Fan connector(for CPU, not used)
- External speaker header (included in the Panel header)
- Clear password header (for BIOS) included in DIP-SW
- Buzzer

3.4 BIOS

- DMI V2.0
- Flash ROM, Upgradable by user
- Sony customization (i.e Sony jingle/logo during boot up)

3.5 Power Management

- APM 1.2
- On-Now
- ACPI 1.0 , supporting following S0, S1, S5 power states

Global State /Sleep State	CPU state	Note	Support
G0/S0	C0	Working	YES
G1/S1	C1	Sleep (no system context is lost)	YES
G1/S2	C2	Sleep(CPU,cache context is lost) *1	NO
G1/S3	?	Suspend to RAM (CPU,cache,chipset context is lost) *1	NO
G1/S4	?	Suspend to DISK	NO
G2/S5	?	Soft Off (Power Off, no context is saved)	YES
G3/--	-	No Power(AC Fail)	YES

*1 Operating System is responsible for maintaining the context.

S2 function support is mount option (default is no mount).

3.6 FloppyDrive Support

- 720K/1.2/1.44/2.88 MB diskette drive support
- Support 3 mode FDD for Japanese market
- HiFD support

3.7 CD-ROM/DVD-ROM Drive Support

- Bootable CD support

3.8 IDE Drive Support

- 2 channel (4 devices) support through PIIX4e
- Ultra DMA/33 support

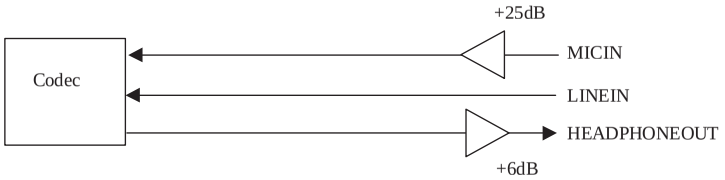
3.9 Main Memory

- 2 x168pin DIMM sockets
- support PC100 unbuffered 64-bit SDRAM 3.3V DIMMS(single or double sided) below

DIMM size	Configuration
8MB	1Mbit x 64
16MB	2Mbit x 64
32MB	4Mbit x 64
64MB	8Mbit x 64
128MB	16Mbit x 64
256MB	32Mbit x 64

3.10 PCI Audio

- AC97 codec AKM4542
- PCI audio controller Aureal AU8830
- Legacy DOS support (based on TSR emulation) 5/7/99
- external +20dB +25dB boost add for MIC IN input(Single Powered OP-amp required)
- +6dB boost with power amplifier add for HEADPHONE OUT (Texas Instrument TPA302 or equivalent)
- SNR +85dB, THD +80dB (LINE IN to LINE OUT, 1kHz sine wave, 0dB=1 Vrms)
- EMI filters(or equivalent consideration) on HEADPHONE OUT/LINE IN/GAME PORT for FCC/VCCI
- SPDIF digital serial output can be implemented on paddle card (default is no mount).
- SPDIF digital serial output support the 32k 44.1k 48k 96kHz sampling rate.
- Pop noise cancel function.
- Audio enable/disable control circuit and controlled by the BIOS.



	Specs(tentative)	Notes
Line In	1Vrms(typ) 2Vrms(max)	10k ohm impedance
Headphoneout(line out)	1.5 Vrms(max)	32 ohm load(drive headphone)
	2 Vrms(max)	10k ohm load
Mic In	0.1 Vrms(max)	Codec Boost Off

3.10.1 Electret Bias Voltage

This specification came from the SONY Technical Standards.

- Voltage of the terminal
  Open-circuit voltage of the terminal shall be 2.5V +0.5 / -0.1 V.
- Short-circuit current of the Terminal
  When each terminal of a jack is shorted, short-circuit current shall be 65mA or less.
- Input Impedance
  Direct current : 4.8k ohm to 7.8k ohm
  Alternative current : 3.0k ohm or more.

3.11 AGP Graphics

- 2x AGP interface
- Support for AGP retention module

3.12 IEEE1394 OHCI

- Texas Instrument TSB41LV03 PHY (physical layer)
- Texas Instrument TSB12LV22 LINK (link layer)
- Power provide +12V, 5W/port
- Isolation between LINK and PHY
- EMI filters(TOKO 857CM-009) on the IEEE1394 Front access header / Rear access option header / Rear connector for FCC/VCCI
- IEEE1394 enable/disable control circuit and controlled by the BIOS.

3.13 Battery Requirements

- Type 2032, 3V coin battery with socket on motherboard
- Battery life greater than 3 years on motherboard (without AC power supply)

3.14 Other Key Components

- Super I/O Controller
- PIIX4e PCI-IDE controller
- 2Mbit Flash ROM

3.15 Reliability

- MTBF over xxxx [TBD]

3.16 Mother Board Environment Specification

Parameter	Specification	Note
Temperature Non-operating	-40°C to +70°C	
Operating	0°C to +55°C	
Shock	[TBD]	
Vibration	[TBD]	

3.17 Power Supply/Consumption

The motherboard should meet the following power supply tolerance.
-5V supply is not used in this motherboard (-5V connect only the voltage monitor circuit)

DC Voltage	Acceptable Tolerance
+3.3V	±5%
+5V	±5%
+5V STB	±5%
+12V	±5%
-12V	±5%

When installed in micro ATX chassis with SFX power supply, Pentium II 350/100MHz,64MB PC100 DIMM,3.5-inch floppy drive,8GB IDE hard drive,2X IDE DVD-ROM drive, and PCI MODEM card, the following table is provided as a guide for power consumption,

Mode	AC(watts) out of 120VAC Outlet
Windows98 desktop	[TBD]
Windows98 desktop, sleep mode(S1)	< 25W
Windows98 desktop, sleep mode(S3)	< 15W

3.18 WHQL

The motherboard must be passed the WHQL certifications when installed With appropriate peripherals and OS.

3.19 Label Requirements

The motherboard should have a reserved area for the label.
And the label has the barcode function.

- product name
- revision
- serial number

3.20 Regulatory Compliance

The motherboard should be compliant with the following safety and EMI regulations when correctly installed in a micro ATX chassis.

3.20.1 Safety

Meet the following regulations.

3.20.1.1 UL

UL1950-CSA950-95

3.20.1.2 CSA

CSA C22.2 No.95-93

3.20.2 EMC

Meet the following regulations.

3.20.2.1 FCC Class B

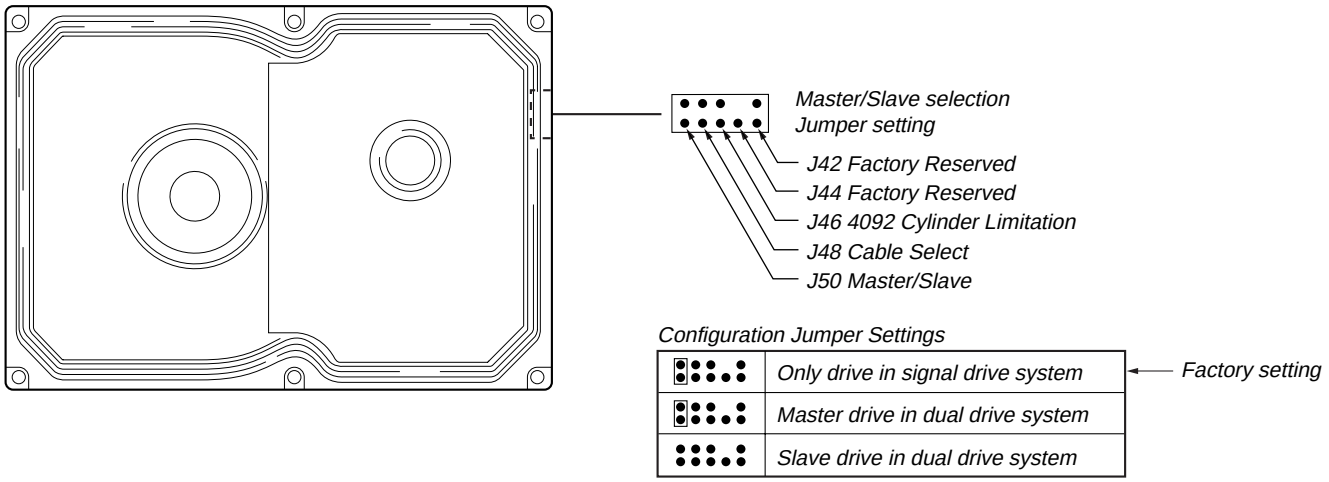
3.20.2.2 VCCI Class B

SECTION 4
SERVICE INFORMATION

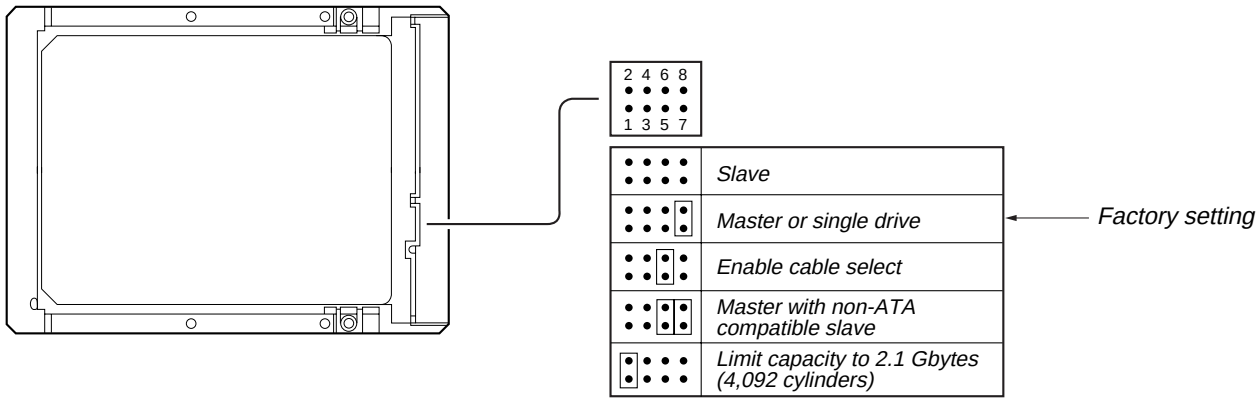
4-1. JUMPER SETTING ON HARD DISK DRIVE

The hard disk drive of service parts can be used without changing factory jumper setting, when it was replaced for service.

Model	Part No.	Maker	Code	Capacity (formatted)
PCV-R522DS/R526DS	1-759-991-11	MAXTOR	91080D5	10.8 GB

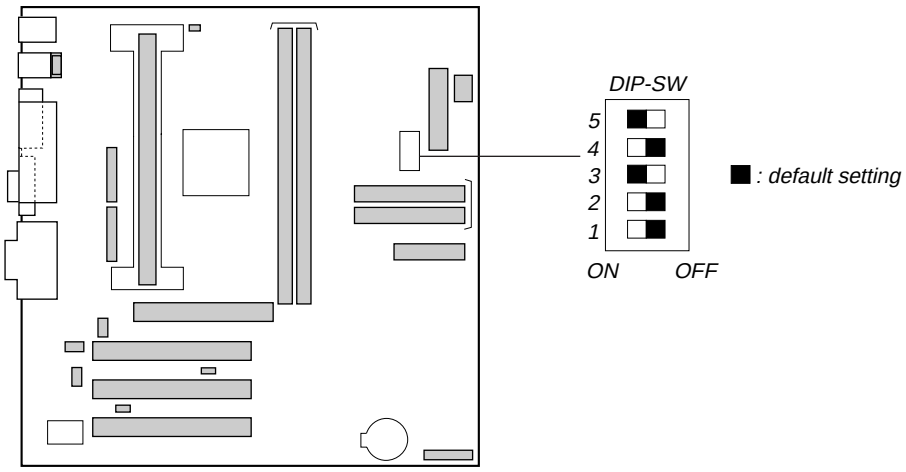


Model	Part No.	Maker	Code	Capacity (formatted)
PCV-R528DS	1-772-329-11	SEAGATE	ST313030A	13 GB



4-2. JUMPER SETTING OF MOTHER BOARD

The Motherboard of service parts can be used without changing factory jumper setting, when it was replaced for service.



Select CPU's core frequency (internal frequency) for debug purpose only
All processor comes with production system ignores these settings.

CPU Core:Bus Frequency Multiple

DIP-SW	2	3	4	5
3.0x	ON	OFF	ON	ON
3.5x	OFF	OFF	ON	ON
4.0x	ON	ON	OFF	ON
4.5x *	OFF	ON	OFF	ON
5.0x	ON	OFF	OFF	ON
5.5x	OFF	OFF	OFF	ON
6.0x	ON	ON	ON	OFF
6.5x	OFF	ON	ON	OFF
7.0x	ON	OFF	ON	OFF
7.5x	OFF	OFF	ON	OFF

* is default setting
Another combination is not defined.

CMOS Clear

Clear the RTC data

DIP-SW	1
Clear	ON
Normal *	OFF

* is default setting

⚠ CAUTION

Do not change the jumper with the power turned on.
Before changing the jumper, turn off the power and disconnect the power cord from the set.

SECTION 5
FRAME HARNESS

5-1. CONNECTOR LIST

1-1 Internal connector

Power supply

20pin ATX type connector.

Connector vender	AMCO 530-20-11-ABN or equivalent
Connector location on MB	Right top corner of the MB

pin assignments :

Pin	Signal Name
1	+3.3 V
2	+3.3 V
3	Ground
4	+5 V
5	Ground
6	+5 V
7	Ground
8	PWRGD (Power Good)
9	+5 VSB
10	+12 V
11	+3.3 V
12	-12 V
13	Ground
14	PS-ON# (power supply remote on/off control)
15	Ground
16	Ground
17	Ground
18	No Connection
19	+5 V
20	+5 V

IDE Primary/Secondary

For 3.5" Hard Drive, 40 pin Header (2.54mm standard type)

Connector vender	AMCO BSCM-40-1 or equivalent
Connector location on MB	Next to the DIMM2 socket

FDD

Connector vender	AMCO BSCM-34-1 or equivalent
Connector location on MB	Next to the DIMM socket

Pin	Signal Name	Pin	Signal Name
1	Ground	2	HDsel
3	Ground	4	N.C.
5	Ground	6	DRIVE_SELECT_#3
7	Ground	8	INDEX
9	Ground	10	DRIVE_SELECT_#0
11	Ground	12	DRIVE_SELECT_#1
13	Ground	14	DRIVE_SELECT_#2
15	Ground	16	N.C.
17	Ground	18	DIRECTION#
19	Ground	20	STEP#
21	Ground	22	WRITE_DATA#
23	Ground	24	WRITE_GATE#
25	Ground	26	TRACK_00#
27	Ground	28	WRITE_PROTECT#
29	N.C.	30	READ_DATA#
31	Ground	32	SIDE_1_SELECT#
33	N.C.	34	DSKCHG#

--NOTE--

'HDsel' signal is sent form drive. It indicate 2HD(when High) or 2DD(when Low) media.

'MODE_SELECT#' is control signal of disk rotation speed. When this signal is High, media rotates 300RPM (2MB). When Low, media rotates 360RPM(1.6MB).

168pin DIMM socket x2

2 slot DIMM connector, 3.3V Unbuffered SDRAM

Connector vender	FOXCONN AT08401-D2 or equivalent
Connector location on MB	Next to the 440BX chipset

Slot 1

Single Edge Contact CPU slot, 1 CPU supported

Connector vender	FOXCONN PC24231-10 or equivalent
Connector location on MB	Behind the rear I/O window

PCI Slot x3

Single Edge Contact PCI slot.

Connector vender	FOXCONN EH06001-GU-V or equivalent
Connector location on MB	Located lower half of the MB

AGP Slot

Single Edge Contact AGP slot.

Connector vender	FOXCONN EE06251-GM or equivalent
Connector location on MB	Located in the middle of the MB

CPU FAN

Supports CPU cooling fan of 500mA or less. Voltage = 12V

Connector vender	AMCO 463-2-03 or equivalent
Connector location on MB	Located near Slot-1 toward the edge

pin assignments :

Pin	Signal Name
1	Ground
2	FAN_CTRL (+12 V)
3	FAN_SEN

Wake on LAN (not installed)

Provides Wake on LAN function

Connector vender	AMP 11140-3 or equivalent
Connector location on MB	Located between PCI2 and PCI3 slot

pin assignments :

Pin	Signal Name
1	+5 V SB
2	Ground
3	WOL signal

CHASSIS FAN (not installed)

Supports chassis fan of 500mA or less. Voltage = 12V

Connector vender	AMCO 463-2-03 or equivalent
Connector location on MB	Located near Panel header

pin assignments :

Pin	Signal Name
1	Ground
2	FAN_CTRL (+12 V)
3	FAN_SEN

CD Audio

4 pin standard 2mm single line header for CD/DVD Audio signal input

Connector vender	AMCO 463-0-04 or equivalent
Connector location on MB	Located near AGP and PCI1 slot

pin assignments :

Pin	Signal Name
1	Left Line In
2	Ground
3	Ground
4	Right Line In

AUX Audio

4 pin standard 2mm single line header for AUX Audio signal input (used for CD-RW audio)

Connector vender	AMCO 463-0-04 or equivalent
Connector location on MB	Located near PCI1 and PCI2 slot

pin assignments :

Pin	Signal Name
1	Left Line In
2	Ground
3	Ground
4	Right Line In

MODEM Audio (not installed)

4 pin standard 2mm single line header for MODEM Audio signal input/output

Connector vender	AMCO 463-0-04 or equivalent
Connector location on MB	Located near PCI1 slot

pin assignments :

Pin	Signal Name
1	Ground
2	MODEM out
3	Ground
4	Phone In

S/P DIF OUT (not installed)

3 pin standard 2mm single line header for S/P DIFoutput

Connector vender	AMCO 463-0-03 or equivalent
Connector location on MB	Located near PCI3 slot

pin assignments :

Pin	Signal Name
1	VCC
2	AU_DATA
3	Ground

IEEE1394 Front access header

8 pin standard 2mm single line header for IEEE1394 Front connector.

Connector vender	AMCO 463-0-06 or equivalent JST B8B-EH-A or equivalent
Connector location on MB	Reffered as 1394HEAD3 located near Slot-1

pin assignments :

Pin	Signal Name
1	Shell Ground
2	Ground
3	TPA
4	TPA*
5	TPB
6	GroundTPB*
7	Ground
8	VP (Power)

VP line need over current protector.
Raychem SMD150/33-2 or equivalent is used for that.

IEEE1394 Rear access optional header x2

86 pin standard 2.5mm single line header for IEEE1394 Rear connector.

One connector connect to the IEEE1394 rear connector and the other one used for internal connection.

Connector vender	AMCO 463-0-06 (This parts number is the PH type connector but will change to the EH type connector.) or equivalent JST B8B-EH-A or equivalent
Connector location on MB	Reffered as 1394HEAD1 and 2 HEAD1 is not installed

pin assignments :

Pin	Signal Name
1	VCC Shell Ground
2	Ground
3	TPA
4	TPA*
5	TPB
6	GroundTPB*
7	Ground
8	VP (Power)

VP line need over current protector. Raychem SMD150/33-2 or equivalent is used for that.

USB Front access header

4 pin standard 2mm single line header for Front USB connector.

Connector vender	AMCO 463-0-04 or equivalent
Connector location on MB	Located next to the rear USB connector

pin assignments :

Pin	Signal Name
1	USBVCC2
2	USBP1#
3	USBP1
4	Ground

USBVCC2 line need the over current protector.
Raychem miniSMDC110-2 or equivalent is used for that.

COM2 Optional header (not installed)

6 pin standard 2mm single line header for COM2.

Connector vender	AMCO 463-0-06 or equivalent
Connector location on MB	Next to the PCI3 slot to the bottom

pin assignments :

Pin	Signal Name
1	TxD
2	Ground
3	RxD
4	CTS
5	VCC
6	GND Ground

Panel header

20 pin standerd 2.5mm dual line header for LED/Switch unit

Connector vender	PINREX PH1S-2x10GO-BK12 or equivalent Or FOXCONN HL07101-XX
Connector location on MB	Right hand bottom

pin assignments :

Pin	Signal Name	Pin	Signal Name
1	SPK- PWR_BTN	11	5V(330) MSG_LED+
2	SLEEP LED- PWR_BTN_G	12	N.C. MSG_LED-
3	SPK+ IDELED-	13	PWE LED- KEYLOCK
4	5V(33) IDELED+	14	KEYLOCK# KEYLOCK_G
5	5V(220)KEY	15	Ground SMI
6	N.C. PWR_LEDL+	16	KEY SMI_G
7	HD LED- PWR_LED-	17	SLEEP SW +5V
8	5V(220) PWR_LEDB+	18	Ground NC
9	PWR SWRESET	19	Ground
10	Ground RESET G (GND)	20	RESET SW SPKR

Battery Holder & Battery

Holder vender	LOTES B6615BP5L or equivalent
Holder location on MB	Next to the Panel header
Battery vender	Sony CR2032 or equivalent

Serial IRQ header (not installed)

2 pin standard 2mm single line header for Serial IRQ signal

Connector vender	AMCO 463-0-02 or equivalent
Connector location on MB	Next to the BIOS

Pin assignments :

Pin	Signal Name
1	IRQSER
2	Ground

IRQSER signal connect to the PCI3 connector via 0 ohm resister. Pin# is the A11.

SOFA (not installed)

pin assingments

Pin	Signal Name	Pin	Signal Name
1	IRTX	2	GND
3	IRRX	4	GND
5	BW	6	GND
7	SYS_ON	8	PWRBTN#
9	GND	10	XMSCLK
11	MSEECLK	12	+5VSB
13	MSEEDATA	14	XKBCLK
15	KBDCLK	16	+5V
17	KBDDATA	18	WKBOE#
19	KBEN#	20	+12V
21	MSEN#	22	WMSOE#
23	S_CLK	24	S_DATA
25	GND	26	+3V

(note) PWRBTN# : control M/B power on/off.
SYS_ON : control M/B reset signal and secondary IDE reset signal.
IRTX,IRRX,BW : FIR signals.
MSEECLK,MSEEDATA,KBDCLK,KBDDATA,
XMSCLK,XKBCLK,WKBOE#,WMSOE#,
KBEN#,MSEN# : wireless keyboard signals.

PS FAN

Support FAN control of SFX power supply.

Connector vender	AMCO 463-2-03 or equivalent
Connector location on MB	Next to the ATX Power connector

pin assignments :

Pin	Signal Name
1	Ground
2	FAN_CTRL (+12 V)
3	FAN_SEN

1-2 External Connector

Parallel

Connector vender	Foxconn DM11351-R1 or Equivalent
Connector location on MB	In rear I/O window

pin assignments :

Pin	Signal Name	Pin	Signal Name
1	Strobe#	14	Auto Feed#
2	Data bit 0	15	Fault#
3	Data bit 1	16	INIT#
4	Data bit 2	17	SLCT IN#
5	Data bit 3	18	Ground
6	Data bit 4	19	Ground
7	Data bit 5	20	Ground
8	Data bit 6	21	Ground
9	Data bit 7	22	Ground
10	ACK#	23	Ground
11	Busy	24	Ground
12	Error	25	Ground
13	Select		

Serial (COM1)

Connector vender	Foxconn DT10121-R5T or Equivalent
Connector location on MB	In rear I/O window

pin assignments :

Pin	Signal Name
1	DCD
2	Serial In #
3	Serial Out #
4	DTR#
5	Ground
6	DSR
7	RTS
8	CTS
9	RI

IEEE1394 Rear connector

6 pin standard IEEE1394 Rear connector.

Connector vender	Molex 53984-0611 or Equivalent
Connector location on MB	In rear I/O window

pin assignments :

Pin	Signal Name
1	Ground VP (Power)
2	Ground
3	TPB*
4	TPB
5	TPA*
6	Ground TPA

VP line need over current protector. Raychem SMD150/33-2 or equivalent is used for that.

PS/2 Keyboard/Mouse

Connector vender	Foxconn MH11067-D2 or Equivalent
Connector location on MB	In rear I/O window

pin assignments :

Pin	Signal Name
1	Keyboard Data
2	N.C.
3	Ground
4	PS2VCC
5	Keyboard Clock
6	N.C.
7	Mouse Data
8	N.C.
9	Ground
10	PS2VCC
11	N.C.
12	Mouse Clock

PS2VCC line need the over current protector. Raychem miniSMDC110-2 or equivalent is used for that.

USB

Two USB connector for external USB devices. (Support the stacked connector)

Connector vender	Foxconn UB1112C-DK1 or Equivalent
Connector location on MB	In rear I/O window

pin assignments :

Pin	Signal Name
1	USBVCC1
2	USBP0#
3	USBP0
4	Ground
5	USBVCC2
6	USBP1#
7	USBP1
8	Ground

USBVCC1/USBVCC2 lines need the over current protector. Raychem miniSMDC110-2 or equivalent is used for that.

Game/Line Out(Headphone)/Line In/Microphone Jack

Connector vender	Foxconn DM11251-J5 Equivalent
Connector location on MB	Rear side

Game port pin assignments :

Pin	Signal Name
1	GAMEVCC
2	JPYB0
3	JOYA0
4	GND
5	GND
6	JOYA1
7	JOYB1
8	GAMEVCC
9	GAMEVCC
10	JOYB2
11	JOYA2
12	MIDI_TxD
13	JOYA3
14	JOYB3
15	MIDI_RxD

Line Out pin assignments :

Pin	Signal Name
Sleeve	Ground
Tip	Audio Left Out
Ring	Audio Right Out

Line In pin assignments :

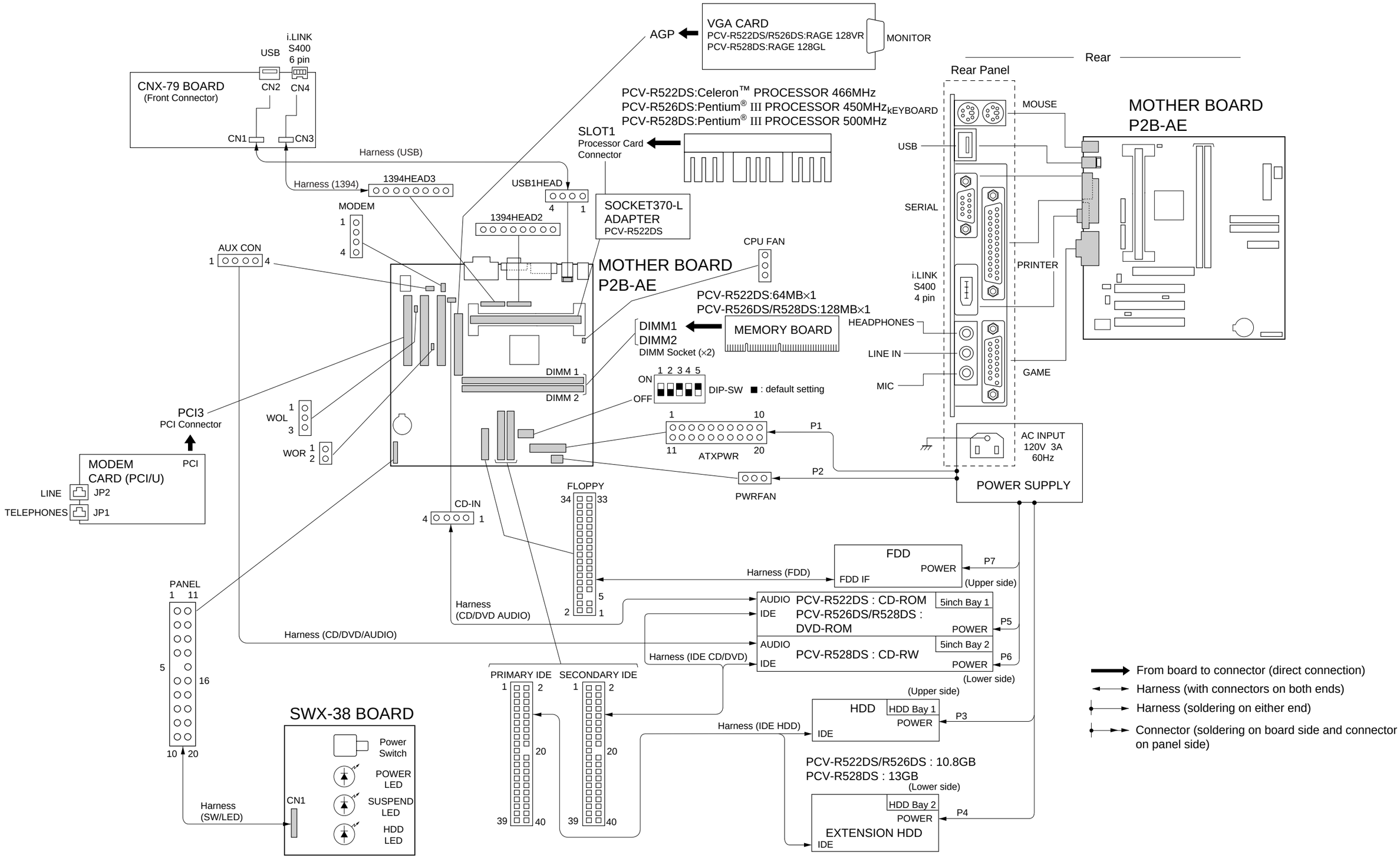
Pin	Signal Name
Sleeve	Ground
Tip	Audio Left In
Ring	Audio Right In

Microphone In pin assignments :

Pin	Signal Name
Sleeve	Ground
Tip	Microphone mono In
Ring	Electret Bias Voltage

GAMEVCC line need the over current protector. Raychem miniSMDC110-2 or equivalent is used for that.

5-2. FRAME HARNESS DIAGRAM

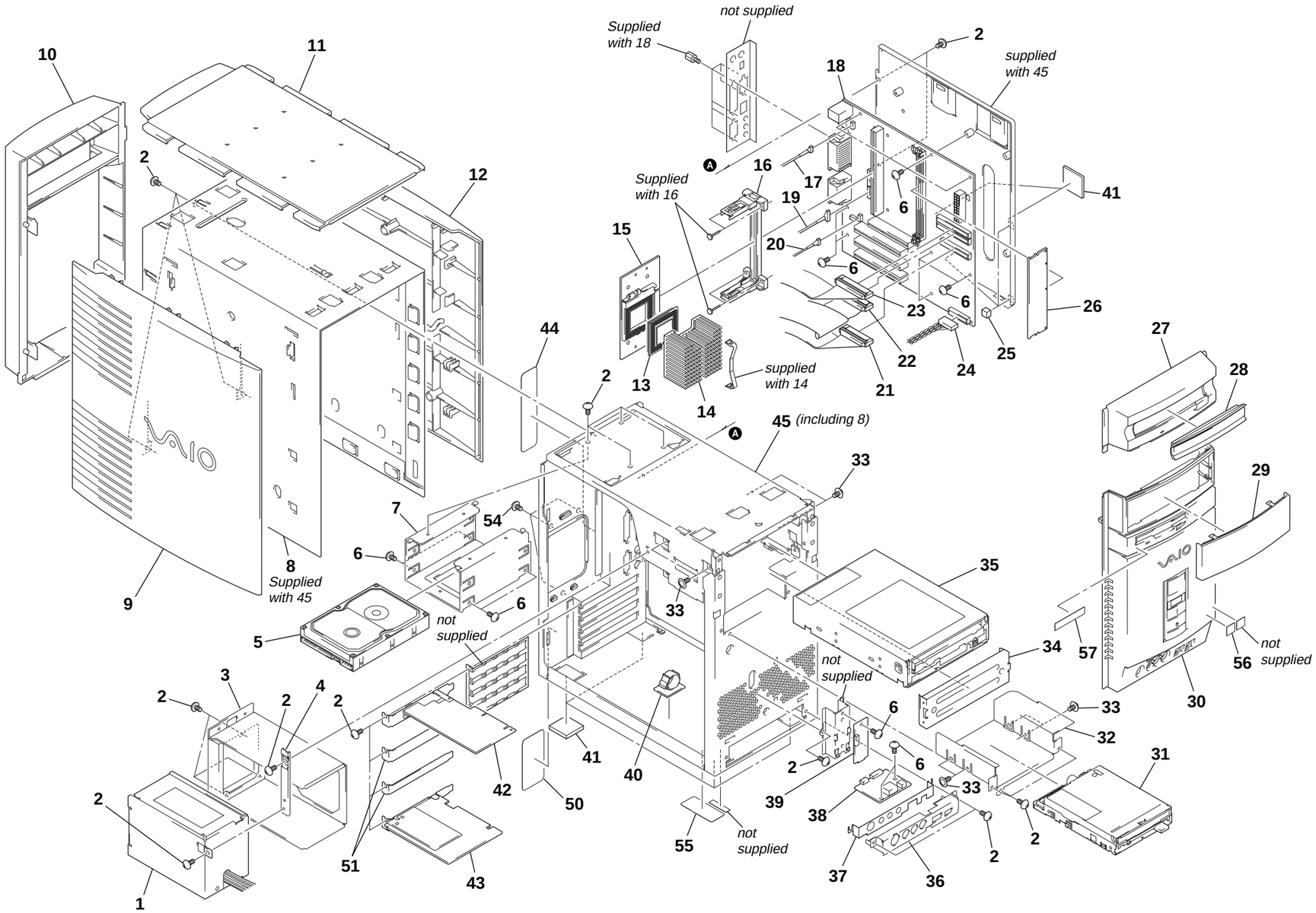


SECTION 6
REPAIR PARTS LIST

NOTE:
- The parts listed here are for service, and therefore they may be different from the parts shown in circuit diagrams or used in the set.
- The category “O” in S/P column denotes that the parts are not always stocked.
- The parts with ◆ marking are stocked at the Division.
- The parts with ■ marking are attached with a barcode label. For further information, see pages 6-8 and 6-9.

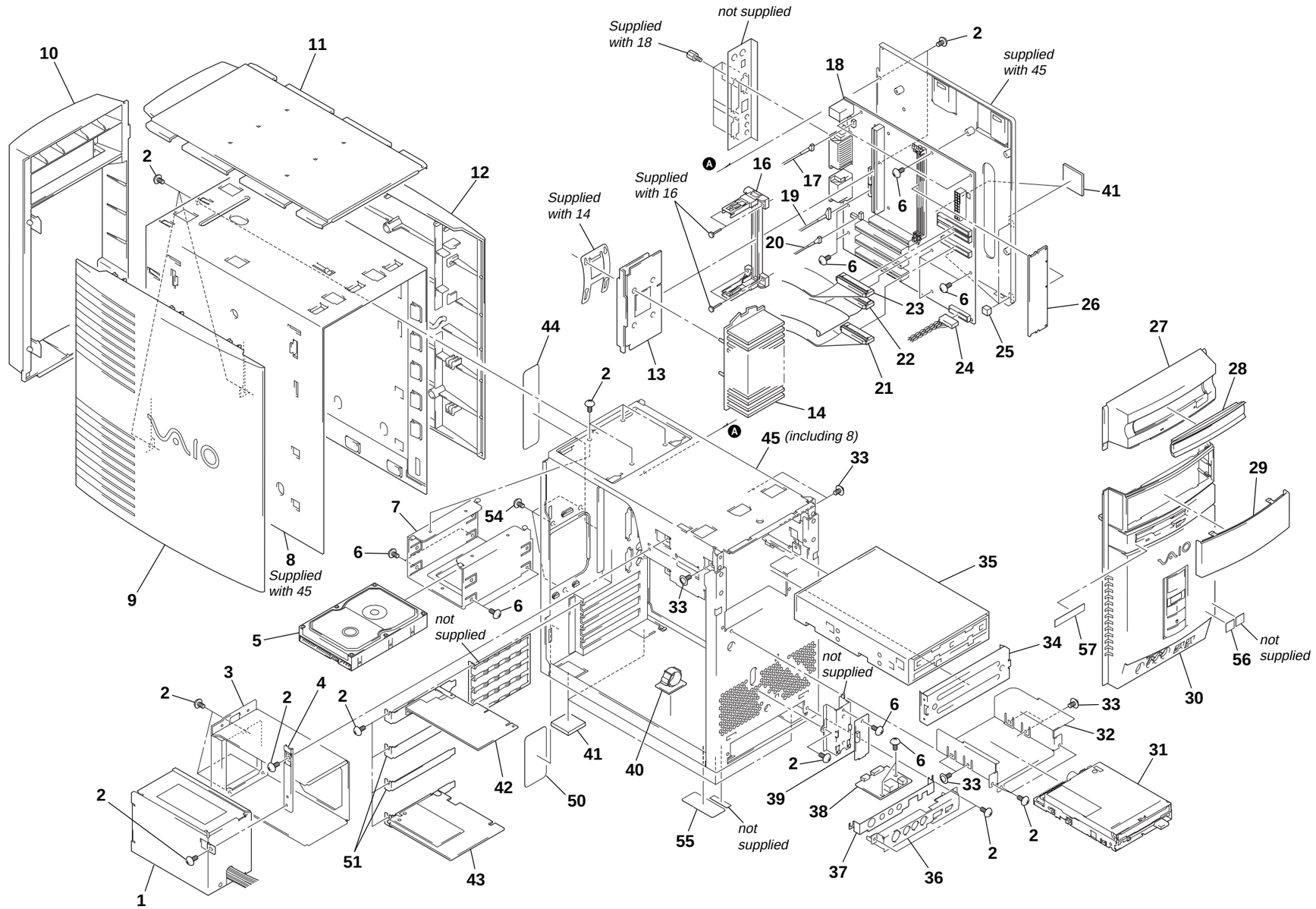
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

6-1. EXPLODED VIEWS AND PARTS LIST (PCV-R522DS)



S/P	Ref. No.	Part NO.	Description	Remark
⚠S	◆ 1	1-468-417-12	■ POWER (170W)	
S	2	4-639-150-01	UNIFIED SCREW 4.5	
O	3	X-4622-220-1	BRACKET ASSY, PS	
O	4	4-642-538-01	STAY, PS	
S	◆ 5	1-759-991-11	■ HDD/M-Q (10.8GB)	
S	6	4-635-796-01	SCREW (W) (NO.6-32UNC)	
O	7	4-642-526-01	BRACKET, HDD	
O	8	4-642-968-01	CHASSIS, TOP COVER	
S	9	4-642-554-11	COVER, LEFT	
S	10	4-642-556-11	COVER, REAR	
S	11	4-642-546-11	COVER, TOP	
S	12	4-642-553-11	COVER, RIGHT	
O	◆ 13	8-759-592-36	IC FV80524RX466128 (CPU: Celeron 466MHz)	
O	14	4-642-550-01	HEATSINK (CELERON)	
O	◆ 15	1-761-266-11	S370-L ADAPTOR BAORD	
O	16	4-641-163-01	RETENSION MODULE/URM	
S	17	1-959-226-11	HARNESS (USB)	
S	◆ 18	1-772-177-11	■ P2B-AE M/B MOUNT	
S	19	1-959-197-21	HARNESS (1394)	
S	20	1-958-973-21	HARNESS (CD/DVD ADUIO)	
S	21	1-959-946-11	HARNESS (FDD)	
S	22	1-959-911-11	HARNESS (IDE HDD)	
S	23	1-959-912-11	HARNESS (IDE CD/DVD)	
S	24	1-959-913-11	HARNESS (SW/LED)	
S	25	4-640-628-01	SPACER (FOR M/B)	
S	◆ 26	8-759-587-68	■ IC MB8508S064CZ-103DG (DIMM: 64MB)	
S	◆ 26	8-759-641-40	■ IC MT8LSDT864AG-10CB4 (DIMM: 64MB)	
S	27	X-4622-338-1	COVER ASSY (CD-ROM, G), DRIVE	
S	28	X-4622-340-1	ESCUTCHEON ASSY (CD-RW, G)	
S	29	4-642-545-11	PANEL, BLANK	
S	30	A-8045-736-A	PANEL ASSY (G)	
S	◆ 31	1-772-251-21	■ FDD (DF354N)	
O	32	4-642-527-01	BRACKET, FDD	
S	33	7-682-903-01	SCREW +PWH 3×5	
O	34	4-642-535-01	SHIELD, DRIVE	
S	◆ 35	A-8045-925-A	■ DRIVE ASSY (S), CD-ROM (CDU701-IT)	
O	36	4-642-593-01	BRACKET (FRONT CONNECTOR)	
O	37	4-642-594-01	SHIELD (FRONT CONNECTOR)	
S	38	A-8056-273-A	CNX-79 MOUNTED PWB	
S	39	A-8056-268-A	SWX-38 MOUNTED PWB	
O	40	4-640-554-11	CABLE CLMP	
S	41	4-643-547-01	FOOT	
S	◆ 42	1-761-226-11	CARD, VGA (RAGE 128VR)	
S	◆ 43	1-761-180-11	■ CARD (PCI-U), MODEM [GVC]	
O	44	1-642-558-01	LABEL, I/O	
O	45	A-8045-814-A	CHASSIS ASSY, MAIN	
O	50	4-643-401-01	LABEL, SLOT	
S	51	4-643-261-01	COVER, SLOT	
S	54	4-639-539-01	SCREW, +PS NO.6-32UNC	
S	55	4-643-389-01	LABEL, SAFETY	
S	56	4-640-142-02	SEAL, MS98	
S	57	4-643-390-01	LABEL, ID	

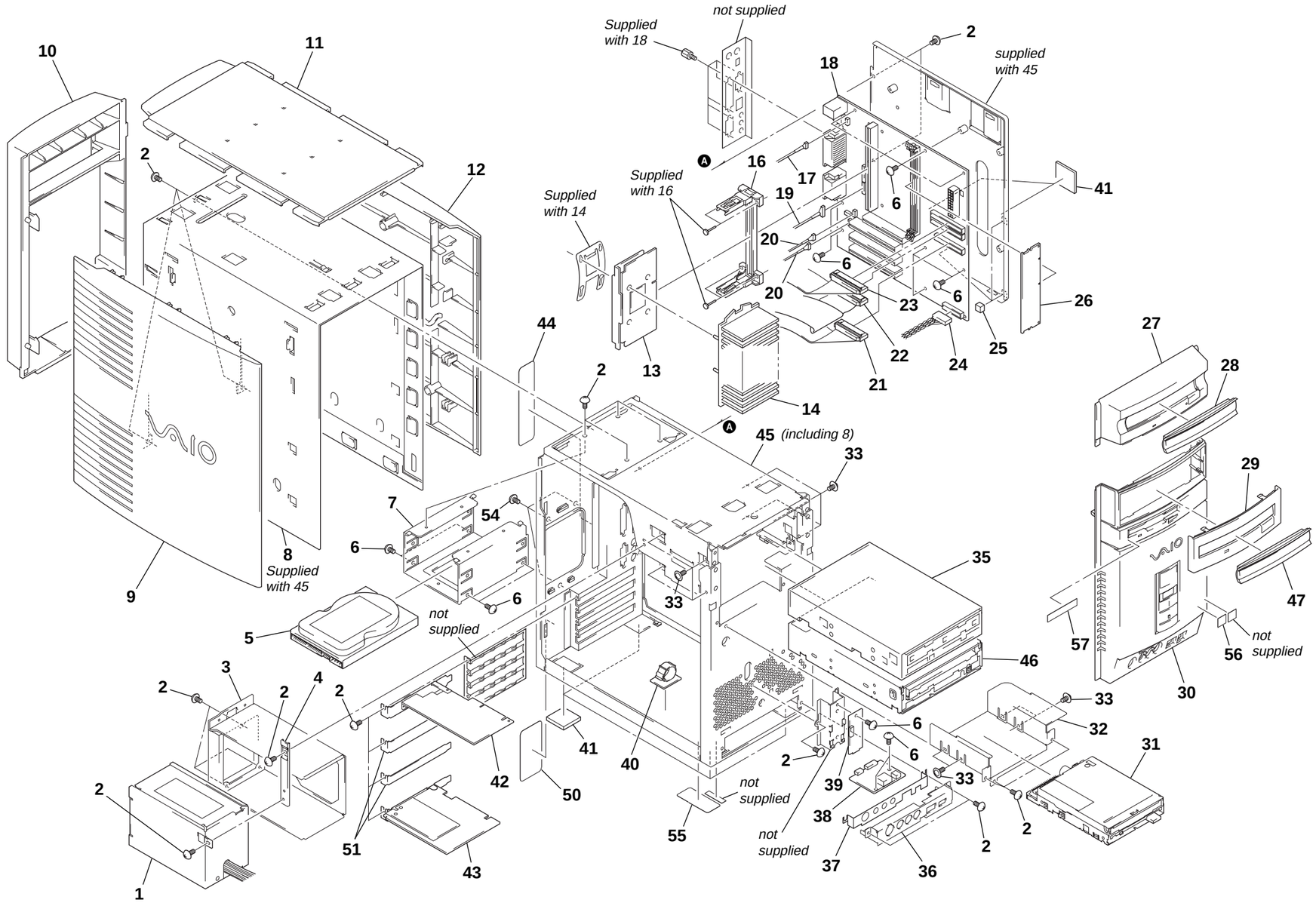
6-2. EXPLODED VIEWS AND PARTS LIST (PCV-R526DS)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

S/P	Ref. No.	Part NO.	Description	Remark
⚠S	◆ 1	1-468-417-12	■ POWER (170W)	
S	2	4-639-150-01	UNIFIED SCREW 4.5	
O	3	X-4622-220-1	BRACKET ASSY, PS	
O	4	4-642-538-01	STAY, PS	
S	◆ 5	1-759-991-11	■ HDD/M-Q (10.8GB)	
S	6	4-635-796-01	SCREW (W) (NO.6-32UNC)	
O	7	4-642-526-01	BRACKET, HDD	
O	8	4-642-968-01	CHASSIS, TOP COVER	
S	9	4-642-554-11	COVER, LEFT	
S	10	4-642-556-11	COVER, REAR	
S	11	4-642-546-11	COVER, TOP	
S	12	4-642-553-11	COVER, RIGHT	
S	◆ 13	8-759-580-99	IC 80525PY450512SL364 (CPU: Pentium III 450MHz)	
O	14	4-642-539-01	HEATSINK	
O	16	4-641-163-01	RETENSION MODULE/URM	
S	17	1-959-226-11	HARNESS (USB)	
S	◆ 18	1-772-177-11	■ P2B-AE M/B MOUNT	
S	19	1-959-197-21	HARNESS (1394)	
S	20	1-958-973-21	HARNESS (CD/DVD ADUIO)	
S	21	1-959-946-11	HARNESS (FDD)	
S	22	1-959-911-11	HARNESS (IDE HDD)	
S	23	1-959-912-11	HARNESS (IDE CD/DVD)	
S	24	1-959-913-11	HARNESS (SW/LED)	
S	25	4-640-628-01	SPACER (FOR M/B)	
S	◆ 26	8-759-597-76	■ IC MT16LSDT1664AG-10CB4 (DIMM: 128MB)	
S	◆ 26	8-759-637-91	■ IC MB8516S064CZ-103DG (DIMM: 128MB)	
S	27	X-4622-233-1	COVER ASSY (DVD, G), DRIVE	
S	28	X-4622-341-1	ESCUTCHEON ASSY (DVD)	
S	29	4-642-545-11	PANEL, BLANK	
S	30	A-8045-736-A	PANEL ASSY (G)	
S	◆ 31	1-772-251-21	■ FDD (DF354N)	
O	32	4-642-527-01	BRACKET, FDD	
S	33	7-682-903-01	SCREW +PWH 3×5	
O	34	4-642-535-01	SHIELD, DRIVE	
S	◆ 35	1-772-215-11	DVD-ROM DRIVE (GD-2500BXSV)	
O	36	4-642-593-01	BRACKET (FRONT CONNECTOR)	
O	37	4-642-594-01	SHIELD (FRONT CONNECTOR)	
S	38	A-8056-273-A	CNX-79 MOUNTED PWB	
S	39	A-8056-268-A	SWX-38 MOUNTED PWB	
O	40	4-640-554-11	CABLE CLMP	
S	41	4-643-547-01	FOOT	
S	◆ 42	1-761-226-11	CARD, VGA (RAGE 128VR)	
S	◆ 43	1-761-180-11	■ CARD (PCI-U), MODEM [GVC]	
O	44	1-642-558-01	LABEL, I/O	
O	45	A-8045-814-A	CHASSIS ASSY, MAIN	
O	50	4-643-401-01	LABEL, SLOT	
S	51	4-643-261-01	COVER, SLOT	
S	54	4-639-539-01	SCREW, +PS NO.6-32UNC	
S	55	4-643-404-01	LABEL, SAFETY	
S	56	4-640-142-02	SEAL, MS98	
S	57	4-643-388-01	LABEL, ID	

6-3. EXPLODED VIEWS AND PARTS LIST (PCV-R528DS)

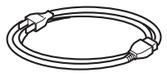


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

S/P	Ref. No.	Part NO.		Description	Remark
⚠S	◆ 1	1-468-417-12	■	POWER (170W)	
S	2	4-639-150-01		UNIFIED SCREW 4.5	
O	3	X-4622-220-1		BRACKET ASSY, PS	
O	4	4-642-538-01		STAY, PS	
S	◆ 5	1-772-329-11	■	HDD/S-K (13GB)	
S	6	4-635-796-01		SCREW (W) (NO.6-32UNC)	
O	7	4-642-526-01		BRACKET, HDD	
O	8	4-642-968-01		CHASSIS, TOP COVER	
S	9	4-642-554-11		COVER, LEFT	
S	10	4-642-556-11		COVER, REAR	
S	11	4-642-546-11		COVER, TOP	
S	12	4-642-553-11		COVER, RIGHT	
S	◆ 13	8-759-581-00		IC 80525PY500512SL365 (CPU: Pentium III 550MHz)	
O	14	4-642-539-01		HEATSINK	
O	16	4-641-163-01		RETENSION MODULE/URM	
S	17	1-959-226-11		HARNESS (USB)	
S	◆ 18	1-772-177-11	■	P2B-AE M/B MOUNT	
S	19	1-959-197-21		HARNESS (1394)	
S	20	1-958-973-21		HARNESS (CD/DVD ADUIO)	
S	21	1-959-946-11		HARNESS (FDD)	
S	22	1-959-911-11		HARNESS (IDE HDD)	
S	23	1-959-912-11		HARNESS (IDE CD/DVD)	
S	24	1-959-913-11		HARNESS (SW/LED)	
S	25	4-640-628-01		SPACER (FOR M/B)	
S	◆ 26	8-759-597-76	■	IC MT16LSDT1664AG-10CB4 (DIMM: 128MB)	
S	◆ 26	8-759-637-91	■	IC MB8516S064CZ-103DG (DIMM: 128MB)	
S	27	X-4622-233-1		COVER ASSY (DVD, G), DRIVE	
S	28	X-4622-341-1		ESCUTCHEON ASSY (DVD)	
S	29	X-4622-357-1		COVER (2) ASSY, DRIVE	
S	30	A-8045-736-A		PANEL ASSY (G)	
S	◆ 31	1-772-251-21	■	FDD (DF354N)	
O	32	4-642-527-01		BRACKET, FDD	
S	33	7-682-903-01		SCREW +PWH 3×5	
S	◆ 35	1-772-215-11		DVD-ROM DRIVE (GD2500BXSV)	
O	36	4-642-593-01		BRACKET (FRONT CONNECTOR)	
O	37	4-642-594-01		SHIELD (FRONT CONNECTOR)	
S	38	A-8056-273-A		CNX-79 MOUNTED PWB	
S	39	A-8056-268-A		SWX-38 MOUNTED PWB	
O	40	4-640-554-11		CABLE CLMP	
S	41	4-643-547-01		FOOT	
S	◆ 42	1-761-225-11		CARD, VGA (RAGE 128GL)	
S	◆ 43	1-761-180-11	■	CARD (PCI-U), MODEM [GVC]	
O	44	1-642-558-01		LABEL, I/O	
O	45	A-8045-814-A		CHASSIS ASSY, MAIN	
S	◆ 46	A-8044-998-A	■	CD-R/W DRIVE ASSY (S) (CRX100E-IT)	
S	47	X-4622-340-1		ESCUTCHEON ASSY (CD-RW, G)	
O	50	4-643-401-01		LABEL, SLOT	
S	51	4-643-261-01		COVER, SLOT	
S	54	4-639-539-01		SCREW, +PS NO.6-32UNC	
S	55	4-643-402-01		LABEL, SAFETY	
S	56	4-640-142-02		SEAL, MS98	
S	57	4-643-403-01		LABEL, ID	

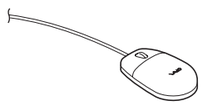
6-4. ACCESSORIES AND PARTS LIST

201
POWER CORD (1)

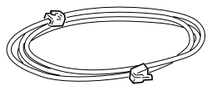


202
EZ KEY BOARD (USB) (1)

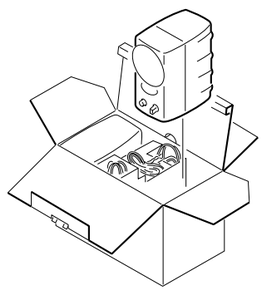
203
MOUSE (1)



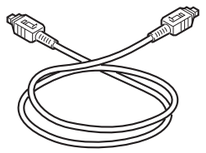
204
MODEM CABLE (1)



205
SPEAKER SYSTEM (1)



206
i.LINK CABLE (1)



(PCV-R528DS)

S/P	Ref. No.	Part NO.	Description	Remark
			ACCESSORIES & PACEKING MATEIRALS	
			**********	
S		4-643-599-01	USER GUIDE	
S		4-643-600-01	READ ME FIRST	
⚠S	201	1-777-786-11	CORD, AC	
S	◆202	1-759-760-21	■ EZ KEY BOARD (USB)	
S	◆203	1-772-207-21	WHEEL MOUSE (PS/2)	
S	204	1-782-207-11	CABLE, MODEM	
–	205	*	SPEAKER SYSTEM SRS-Z050V//0 SET	
S	206	1-790-145-21	(R528DS)...CORD, CONNECTION (i.LINK)	

* Refer to SRS-Z050V (US)
Service manual. [9-927-128-11]

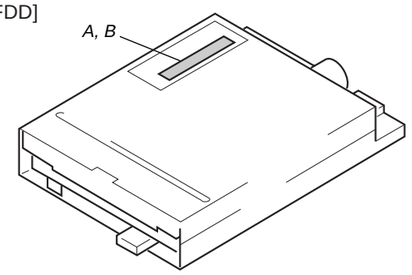
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

6-5. BARCORD LABEL

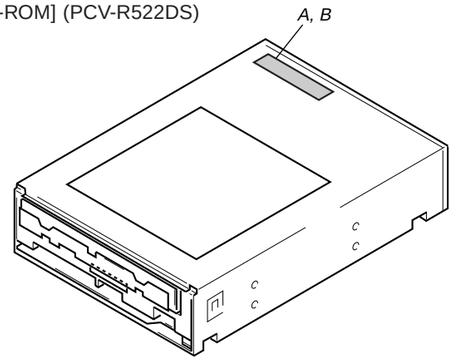
How to see barcode label
The shaded barcode label is used for repair data.

A : Part No.
B : Serial No.
C : Revision No.
D : Maker Barcode 1
▭ : Barcode

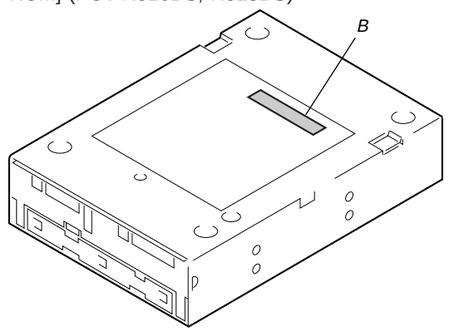
[FDD]



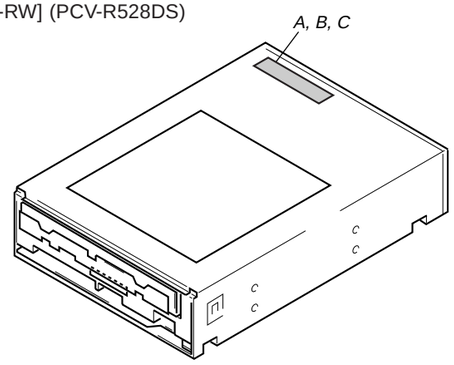
[CD-ROM] (PCV-R522DS)



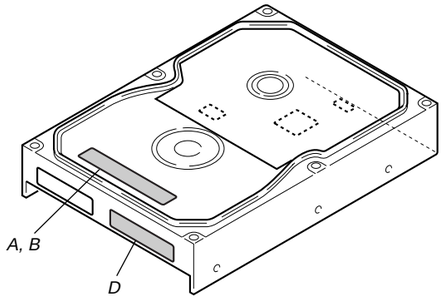
[DVD-ROM] (PCV-R526DS, R528DS)



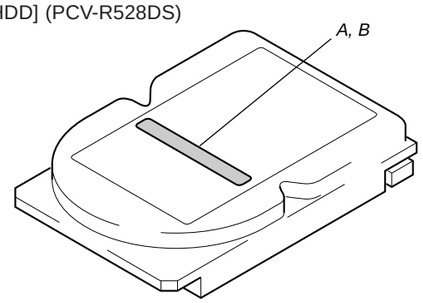
[CD-RW] (PCV-R528DS)



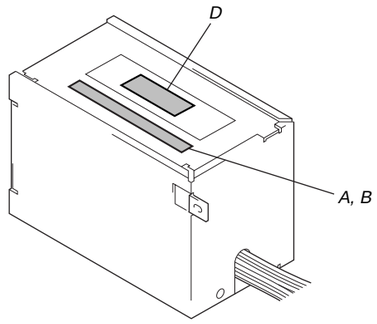
[HDD] (PCV-R522DS, R526DS)



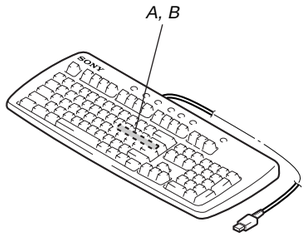
[HDD] (PCV-R528DS)



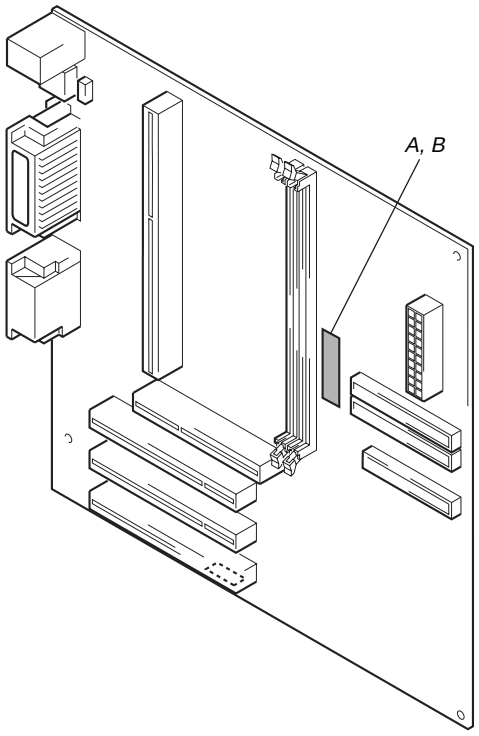
[POWER SUPPLY]



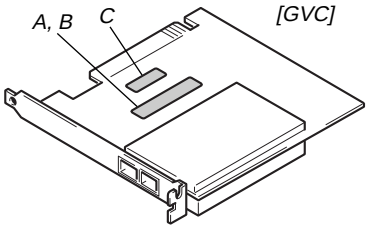
[KEY BOARD]



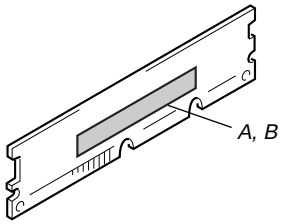
[MOTHER BOARD]



[MODEM CARD]



[DIMM]



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